SERVICE MANUAL 5025B

Model 5025B is not different from Model 5025 actually except for the following parts component, therefore please use service manual of Model 5025 together with following list for service of Model 5025B.

Different parts between Model 5025 and 5025B

MODEL 5025						MODEL 5025B					
REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION	REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
8.1 [P01-00] TOP COVER AND MAIN CHASSIS (PAGE 38)											
018B	1	1	1	4197257022	Lid, Top Cover	959B	1	1	1	4197257052	Lid, Top Cover
030F	1	1	1	4197105504	Chassis	927F	1	1	1	4197105525	Chassis
8.2 [P02-99] FRONT PANEL AND CHASSIS (PAGE 39)											
A	1	1	1	4198063400	Front Panel Assembly, Gold	A	1	1	1	4237063400	Front Panel Assembly, Gold
001B	1	1	1	4198063010	Escutcheon	951B	1	1	1	4237063010	Escutcheon
002B	1	1	1	4123158032	Window	002B	1	1	1	4123158032	Window
003B	4	4	4	3448259010	Bushing	003B	4	4	4	3448259010	Bushing
004B	6	6	6	51100305A9	B.H.M. Screw, B3x5	004B	6	6	6	51100305A9	B.H.M. Screw, B3x5
006B	2	2	2	3448259100	Bushing	006B	2	2	2	3448259100	Bushing
007B	1	1	1	4198053010	Cover	957B	1	1	1	4237053010	Cover
010B	1	1	1	4198063020	Escutcheon	952B	1	1	1	4190063030	Escutcheon
012B	1	1	1	2221259013	Bushing	012B	1	1	1	2221259013	Bushing
013B	1	1	1	4197259010	Bushing	013B	1	1	1	4197259010	Bushing
A1			1	4198063410	Front Panel Assembly, Black	A1			1	4237063410	Front Panel Assembly, Black
001B			1	4198063040	Escutcheon	001B			1	4237063020	Escutcheon
002B			1	4123158032	Window	002B			1	4123158032	Window
003B			4	3448259010	Bushing	003B			4	3448259010	Bushing
004B			6	51100305A9	B.H.M. Screw, B3x5	004B			6	51100305A9	B.H.M. Screw, B3x5
006B			2	3448259100	Bushing	006B			2	3448259100	Bushing
007B			1	4198053010	Cover	957B			1	4237053010	Cover
010B			1	4198063050	Escutcheon	952B			1	4237063060	Escutcheon
012B			1	2221259013	Bushing	012B			1	2221259013	Bushing
013B			1	4197259010	Bushing	013B			1	4197259010	Bushing
011B	4	4	4	52017069J0	H. Head Bolt						Deletion
001F	1	1	1	4197160013	Bracket	926F	1	1	1	4197160143	Bracket
8.4 [P04-99] REAR PANEL (PAGE 41)											
901B	1	1		4197160020	Bracket	901B	1	1		4197160150	Bracket
901B			1	4197160010	Bracket	901B			1	4236160010	Bracket
906B	1			4197265012	Indicator	906B	1			4237265010	Indicator
906B		1		4197265022	Indicator	906B		1		4237265020	Indicator
906B			1	4197265030	Indicator	906B			1	4237265030	Indicator
8.12 [H01-99] PACKING MATERIALS (PAGE 53)											
901U	1	1	1	4198801010	Packing Case	901U	1	1	1	4237801010	Packing Case
						924U	1			4236851010	Instructions
						924U		1		4236851020	Instructions
						924U			1	4236851030	Instructions

Printed in Japan

SERVICE MANUAL 5025

marantz

model 5025

Stereo Cassette Deck

INTRODUCTION

This service manual and prepared for use by Authorized Warranty Station and contains service information for Marantz Model 5025 Stereo Cassette Deck.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of the operation of the Cassette Deck.

The parts list furnishes information by which replacement parts may be ordered from the Marantz Company. A simple description is included for parts which can be usually obtained through local suppliers.

1. P.W. BOARDS

As can be seen from the circuit diagram, the chassis of Model 5025 consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. Pre-Amp, Power Supply & Dolby . . . . mounted on P.W. Board, P100
2. LED . . . . . mounted on P.W. Board, P600
3. Terminals . . . mounted on P.W. Board, P700
4. Volume & Peak . . . . . mounted on P.W. Board, P500
5. Fuse (N&P versions only) . . . . . mounted on P.W. Board, P400
6. Memory . . . . mounted on P.W. Board, P800

2. TEST EQUIPMENT REQUIRED FOR SERVICING

For measuring or checking the Model 5025, the following instruments and materials are necessary.

- VTVM
- Audio Oscillator (af OSC)
- Attenuator (600 Ω)
- Oscilloscope
- Bandpass Filter (1 kHz)
- IEC A-Curve Filter
- Wow and Flutter Meter
- Torque Meter (Cassette Type)
- Digital Frequency Counter
- Distortion Meter
- Blank Tapes (Completely erased with bulk eraser)
  TDK AC-211 (Normal)
  TDK AC-511 (CrO_2)
  SONY CS-30 (Fe-Cr)

NOTE: If any doubt is noted in a measured value, use new tape.

- Test Tapes (New Tape)
  MTT-111 Wow and Flutter Tape Speed
  MTT-112 Measurement of Output Level Signal-to-Noise Ratio
  MTT-150 Adjustment of Output Level
  MTT-116U Frequency Response (for Normal)
  MTT-116K Frequency Response (for CrO_2, Fe-Cr)
  MTT-121 Cross Talk
  MTT-141 Channel Separation

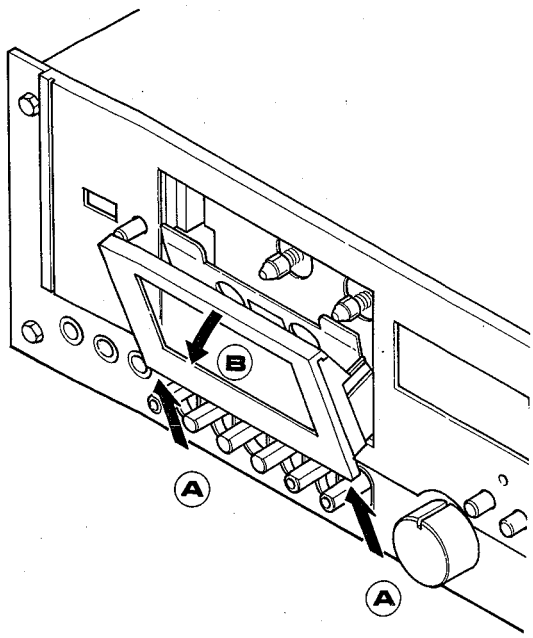
BIAS and EQ switches setting in accordance with tape used are as follows:

Tape	Switch Position	
	BIAS Switch	EQ Switch
Normal		
CrO_2		
Fe-Cr		

3. DISASSEMBLY

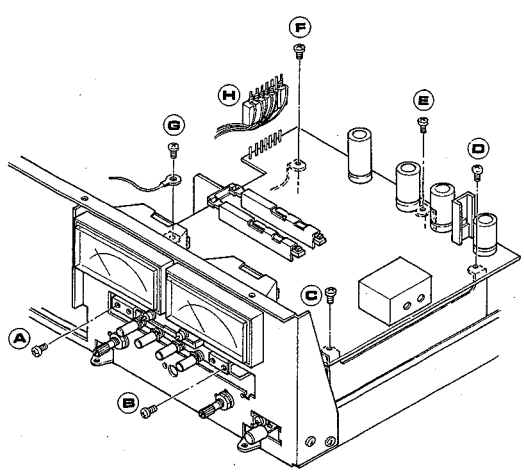
3.1 REMOVING THE CASSETTE CASE ESCUTCHEON

Push the cassette case escutcheon at the two positions upward in the arrow A direction. As it will be detached, take it out in the arrow B direction.



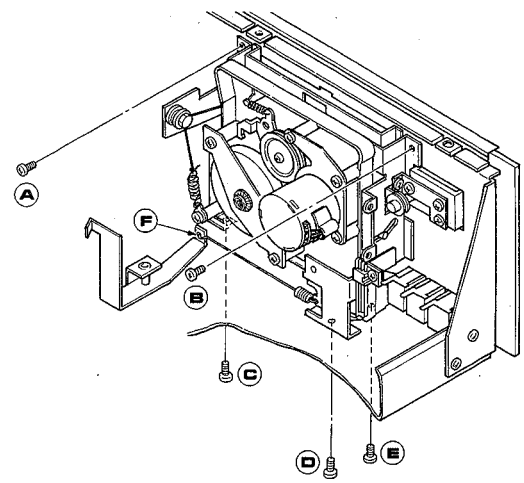
3.2 REMOVING THE MAIN P.W. BOARD

Remove the seven screws A, B, C, D, E, F and G holding the Main P.W. board. Unplug the connector H. Then, draw it out with taking care of not applying excessive force to any lead wire.



3.3 REMOVING THE MECHANICAL CHASSIS

Remove the five screws A, B, C, D, and E holding the mechanical chassis. Remove the record lever spring assembly F. Then, draw the chassis out with taking care of the tape counter and operating levers.

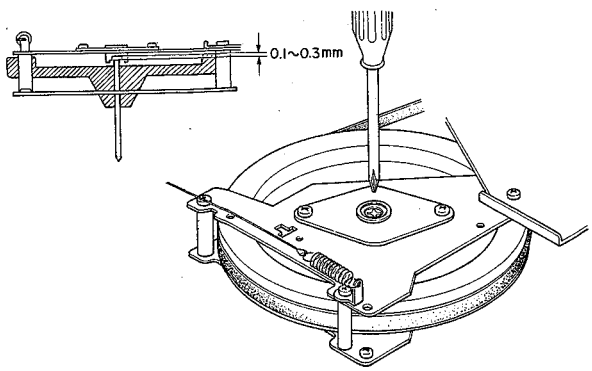


4. ADJUSTMENT PROCEDURES

4.1 MECHANICAL ADJUSTMENTS

4.1.1 Adjusting the Flywheel Thrust

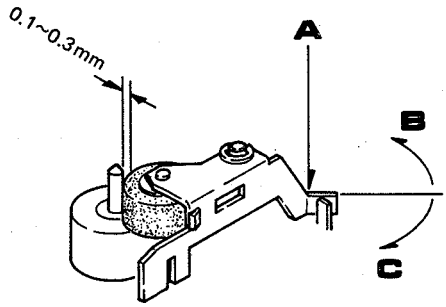
Adjust the thrust screw at the flywheel bracket until the clearance between the capstan tail end and thrust bearing is 0.1 to 0.3 mm as shown, using a phillips screw driver. For adjusting, feel of axial dropping of the flywheel for proper clearance as this cannot been seen through. Then paint the screw to lock.



4.1.2 Adjusting Pause Timing

Set the unit in the play mode of operation. Then, adjust the bend angle of the pinch roller bracket arm (point A in the line drawing) until the clearance between the pinch roller and capstan is 0.1 to 0.3 mm at the time when the take-up reel is stopped by slowly pressing the PAUSE push-button down.

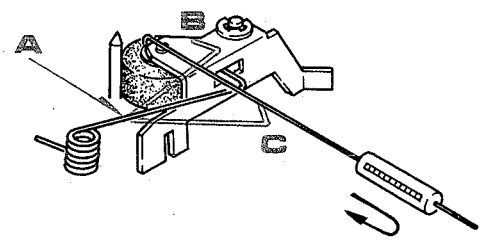
NOTE: To widen the clearance, make the bend angle smaller (in the direction C). To make the clearance narrower, widen the bend angle (in the direction B).



4.1.3 Adjusting the Pinch Roller Pressure

Measure the pressure of the pinch roller using a gauge as shown. For measurement, draw the pinch roller in the arrow direction in which it is detached from the capstan shaft and gradually return it toward the capstan. Read the gauge at the time when the pinch roller starts turning. The standard pressure is 300±50 g. If the pressure is out of the range, bend the pinch roller spring around the point A in the direction B or C.

NOTE: To make the pressure strong, bend in the direction B. To make the pressure weak, bend in the direction C.



4.1.4 Adjusting the Play Timing

It is normal that when the PLAY pushbutton is depressed, the take-up reel table turns first, then the pinch roller is rotated. The reel table and pinch roller must not start turning at the same time.

NOTE: **Make certain that such a subsequent operation is made irrespective of locking state is depressed slowly without loading the tape.**

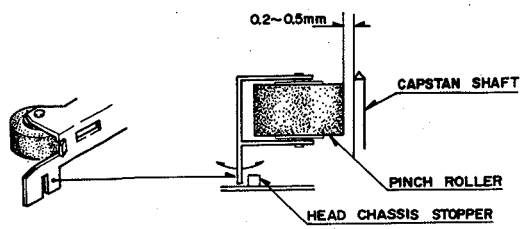
(1) Checking for adjustment

Check whether or not the clearance between the pinch roller and capstan is 0.2 to 0.5mm when the take-up reel table starts turning with the PLAY pushbutton depressed slowly.

(2) Adjustment

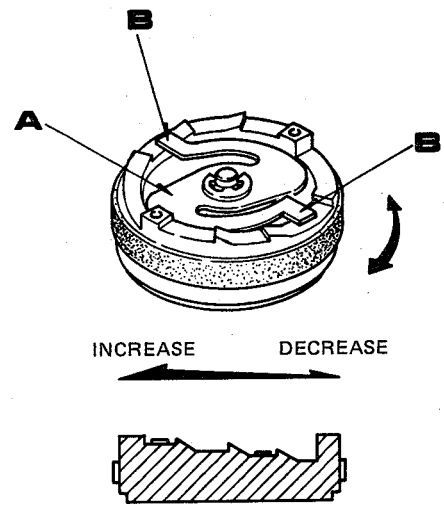
Bend the pinch roller bracket at the point that touches the head chassis stopper. In the line drawing, bending left reduces the clearance between the capstan and pinch roller.

NOTE: **Make certain that the pinch roller bracket does not leave touching the head chassis stopper in the play mode of operation as a result of excessive bending.**



4.1.6 Adjusting the Fast Forward and Rewind Torque

The fast forward and rewind idler has a torque adjust plate spring (part A in the line drawing), which has two pawls (part B) at its ends. Set the pawls in proper one of the three steps. To make the torque high, set the pawls in the shallowest step. For lower torque, set in the deepest step.

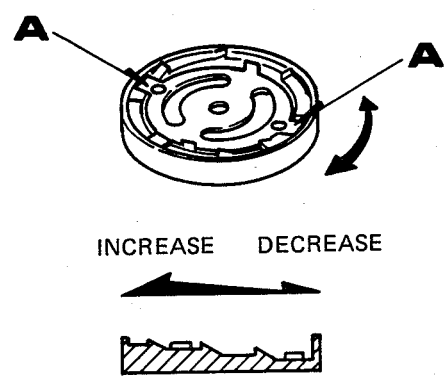


4.1.5 Adjusting the Play Torque

Put the two pawls of the circular plate spring on proper stepped position of the reel rest. The adjustable torque range is 40 to 70 g·cm.

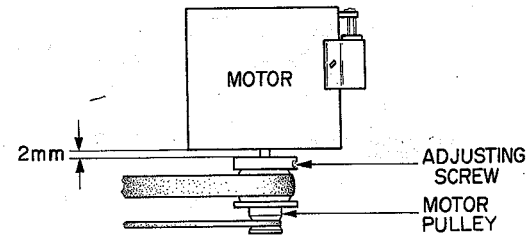
To make the torque high, put the pawls on a shallow step. For lower torque, put them on a deeper step.

- **Checking the take-up clutch for sliding**
  Make certain that the flywheel rotates freely when the reel table is locked. The flywheel that revolves irregularly or stops is not acceptable.



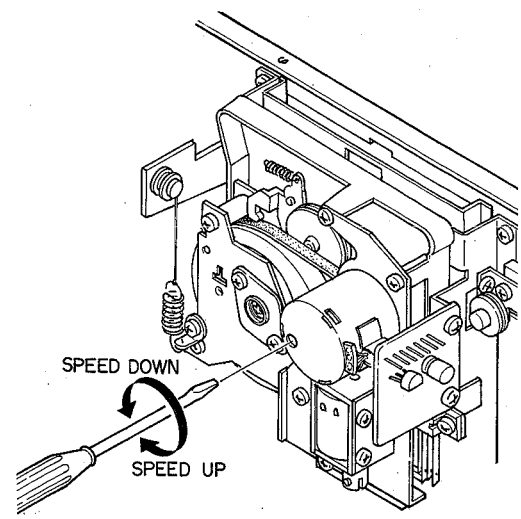
4.1.7 Positioning the Motor Pulley

Loosen the set screw and adjust the motor pulley position until the clearance between the pulley and motor is 2 mm as shown. Tighten the set screw.



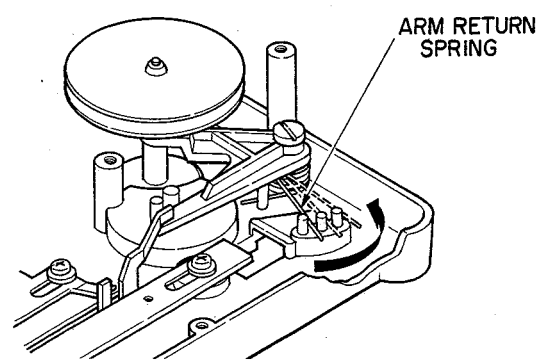
4.1.8 Adjusting the Tape Speed

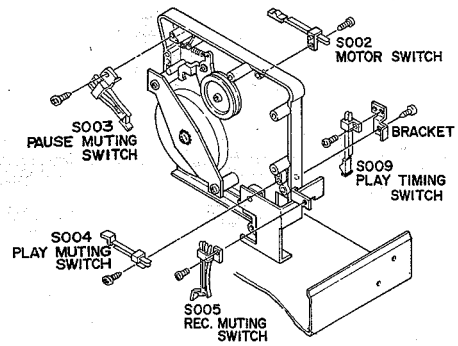
Adjust the semi-fixed resistor inside the motor until the tape speed is 2985±5Hz, using a screw driver.



4.1.9 Adjusting the Rewind Idler Side Pressure

Make certain that in the rewind mode of operation, the rewind idler does not slip on the supply reel table when this is held by hand. If it slips, change the hanging position of the rewind idler arm return spring on the chassis in the arrow direction step by step until it does not slip.

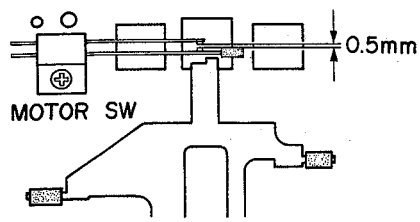




4.1.10 Positioning the Switches

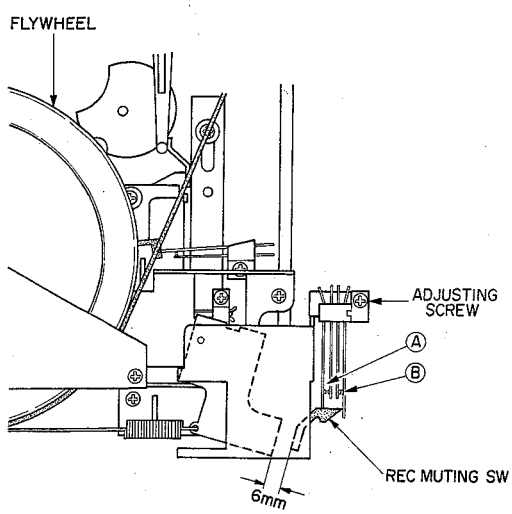
(1) Motor switch

Turn the motor switch in the arrow direction until it is screwed tightly. Make certain that the contact gap is wider than 0.5 mm.



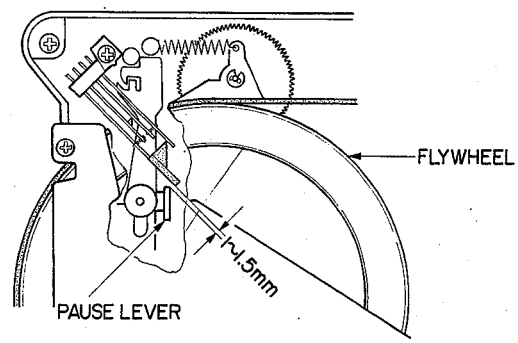
(2) Record muting switch

In the stop state, loosen the screw holding the record muting switch and position this so that the clearance between its end mold tip and mounting bracket may be 6 mm. Tighten the screw. Make certain that when the record lever is pressed in, the record muting switch contact A is made close and the contact B is broken out securely.



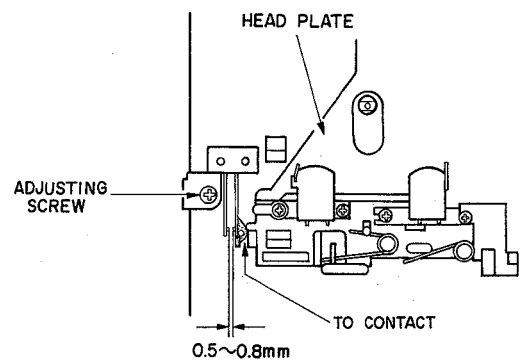
(3) Pause muting switch

In the stop state, loosen the screw holding the pause muting switch and position this so that the clearance between its end tip and pause arm may be 1 to 1.5 mm.



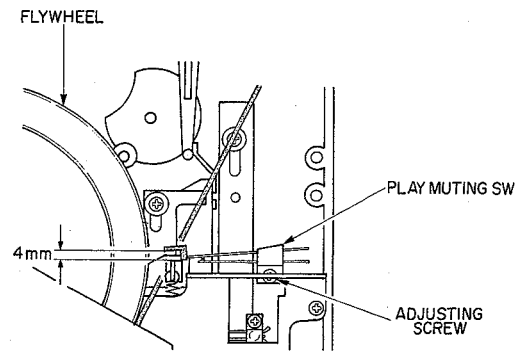
(4) Start muting switch

In the stop state, loosen the screw holding the start muting switch and position this so that its contact clearance may be 0.5 to 0.8 mm with leaving the contact tip in contact with the head plate. Tighten the screw.

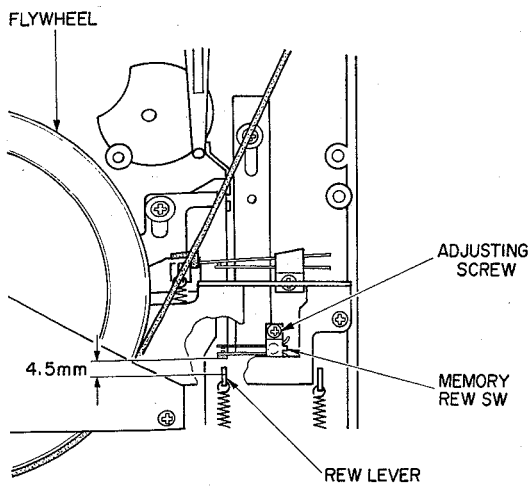


(5) Play muting switch

In the stop state, loosen the screw holding the play muting switch and position this so that the clearance between its end tip and play lever may be 4 mm.

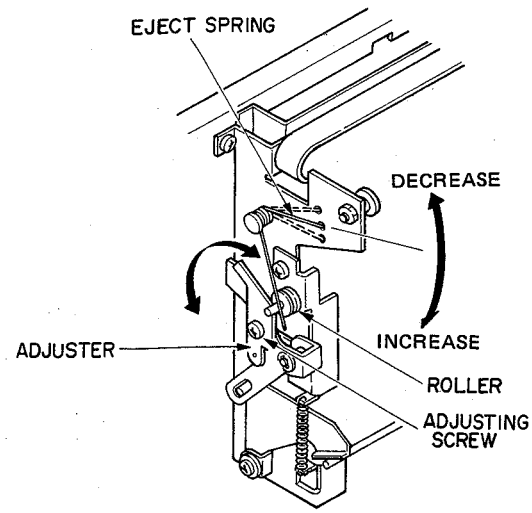


(6) Memory rewind switch
In the stop state, loosen the screw holding the memory rewind switch and position this so that the clearance between it and rewind lever may be 4.5 mm. Tighten the screw.



4.1.11 Setting the Eject Spring

Hang the eject spring at proper one of the three holes so that the cassette lid can be opened well. After setting, bond the spring to lock.



4.1.12 Adjusting the Interlocking Mechanism

IMPORTANT: In aligning the mechanical assembly, place it alone.

1. Lay the mechanical assembly by its side as shown in Figure 1.
2. Loosen the screw E holding the adjuster C a little until this moves freely.
3. Adjust the interlock cam B by finger until the clearance between the interlock cam B and the lock cam release arm A is 0.1 to 0.5 mm.
4. Keeping this clearance, tighten the screw E to fix the adjuster C, which will be in light contact with the cassette guide shaft D.
5. After completion of Steps 1 through 4, perform checking by proceeding as follows.
   a. Open the cassette door by pressing the STOP/EJECT pushbutton.
   b. Close the cassette door slowly by hand. Make certain that the PLAY pushbutton will not move in the range of the position A to B in Figure 2 while the cassette door is closed.
   NOTE: The cassette door is locked at the position C.

CAUTION
If the PLAY pushbutton is locked in that range, replace the following parts as these may be defective.

REF. DESIG.	PART NO	DESCRIPTION
811N L	438305402-0 438005140-0	Cam Guide ass'y

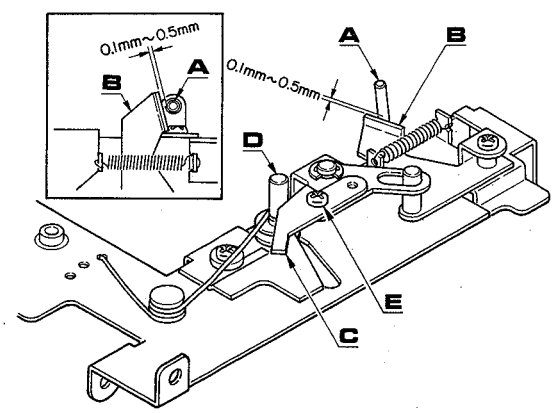


Fig. 1

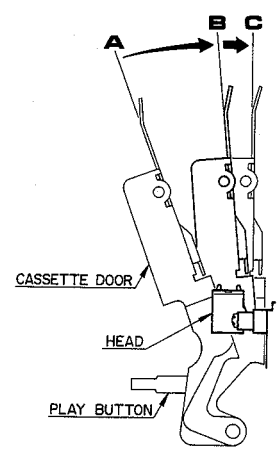


Fig. 2

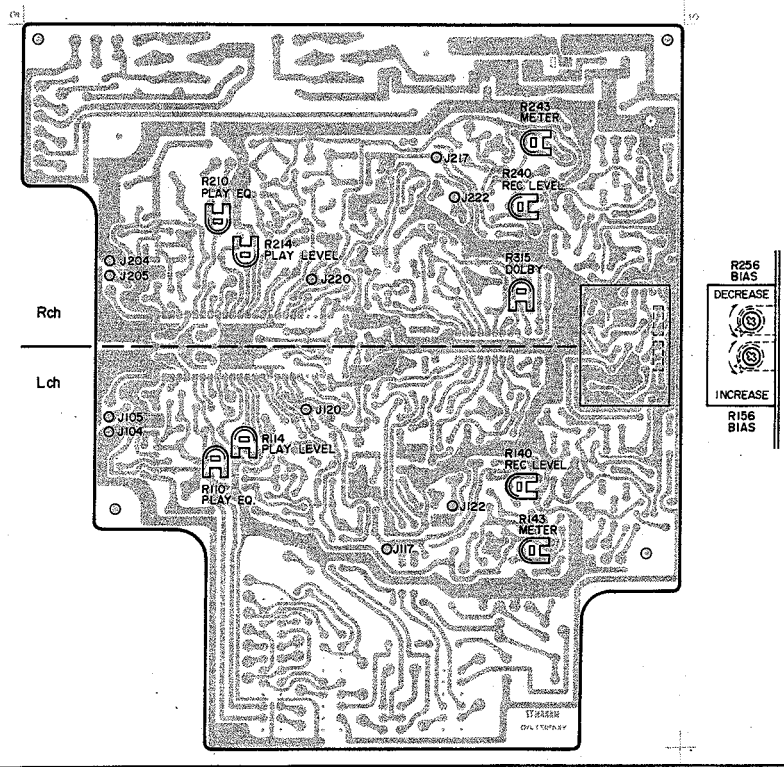
4.2 ELECTRICAL ADJUSTMENTS AND MEASUREMENTS

Precautions Before Adjustment and Measurement

1. Before playing the test tape back, thoroughly demagnetize the heads, capstan and similar metal parts using an eraser as the test tape-recorded tone is easily erased.
2. Do not place the test tape on any measuring instrument.
3. Do not put the test tape near a place where the eraser is used.
4. Method of Demagnetization:—Turn the eraser power switch on at a remote position far away from the heads. Bring the eraser close to the heads, capstan and other parts to be demagnetized, and move it up and down four or five times to demagnetize. Slowly separate the eraser far away from the parts, and turn the power switch off.
5. Do not use any magnetized adjusting tool. When using it, demagnetize it from time to time in the course of each adjustment.
6. Do not turn semi-fixed resistor, capacitor, and inductor adjusting screws more than needed.
7. If measuring the tape speed wow and flutter, operate the tape deck in the normal operating condition.
8. Do not apply locking bond excessively.

Definitions

1. The "normal playback state" is an operating state of the tape deck which plays back the MTT-150 test tape and is adjusted so as to produce a 775mV output at the MAIN P.W. Board (P100) J120, J220 with the load assuming the measuring instrument input impedance of greater than 100kΩ and with the TAPE selector switch set at the NORMAL position.
2. The "normal recording state" is an operating state of the tape deck which records a 1kHz signal to a specified recording level for which the recording level control is adjusted with the 1kHz signal applied at a specified input level to the MIC input terminal.
   In the normal recording state, therefore, this tape deck is set up with the level control to the state that the level meter pointer may deflect to the 100% mark as 0VU with a 1kHz, 1mV input signal applied.



1. Head Azimuth Adjustment

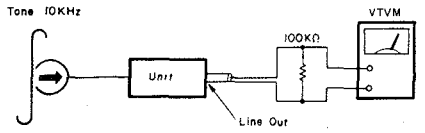
SET UP

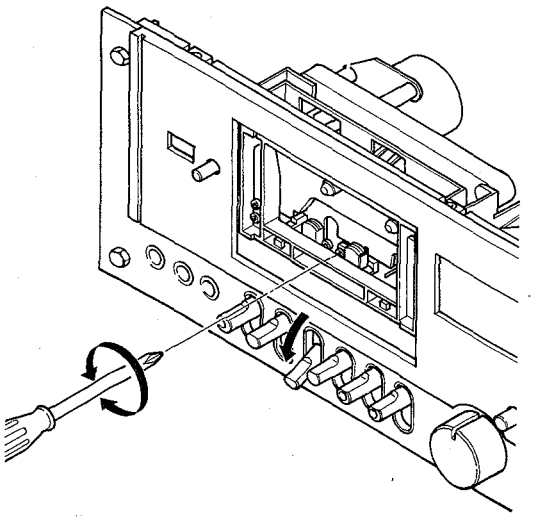
1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. TAPE selector switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal used:- LINE OUT.
5. Test tape used:- MTT-116U (31.5Hz to 14kHz).

PROCEDURES

1. Play the 10kHz portion of the test tape MTT-116U back. Adjust the head azimuth adjusting screw for maximum VTVM read.
2. If the peak output reads of the right and left channels are different, set the screws to obtain the mechanical center between the peaks.
3. After adjustment, lock the screw with bond.

Mode: playback





CAUTION

After adjustment, repeat the playback and stop setting a few times to make certain of no head azimuth deviation.

2. Tape Speed Adjustment

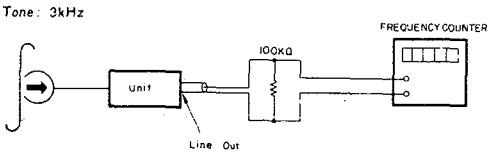
SET UP

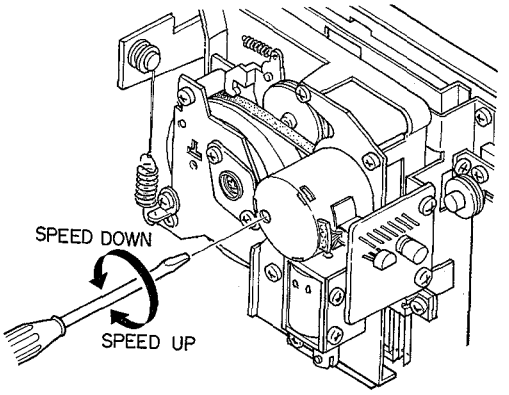
1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Output terminal:- LINE OUT.
3. Test tape used:- MTT-111.
4. Unit position:- Horizontal.

PROCEDURES

1. Play the mid portion of the test tape MTT—111 back. Adjust the tape speed adjusting semi-fixed resistor for 2990 to 3010Hz counter indication.

Mode: playback





CAUTIONS

1. For adjustment, the tape deck should be set up in the normal operating condition.
2. Do not adjust the semi-fixed resistor more turns than needed.
3. Do not proceed with adjustment after the tape deck temperature has changed.
4. If a strong shock or similar vibration is applied to the tape deck after adjustment, make certain that the measured tape speed had not changed.
5. If the tape speed deviation occurs, perform the adjustment again.
6. Be careful that the counter may indicate a wrong value because of too low counter input level.
7. Before adjustment, allow for 30 seconds or more after depressing of the PLAY push-button.

3. Playback Equalizer Adjustment

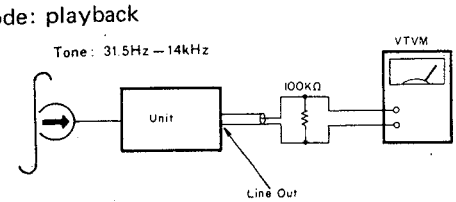
SET UP

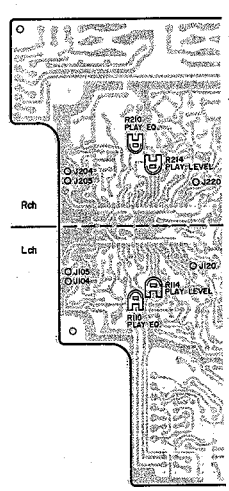
1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. TAPE selector switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. output terminal:- LINE OUT.
5. Test tape used:- MTT-116U (31.5Hz to 14kHz).

PROCEDURES

1. Play the test tape MTT-116U. Let the 315Hz signal level be reference as 0dB.
2. Adjust R110 and R210 (3kΩ each) for 10kHz frequency response of 0 to −1dB in reference to the 315Hz signal level (0dB).
3. Proceed both for the right and left channels in the same manner.
4. Note that clockwise turning of R110 and R210 will increase the 10kHz signal output level.

Mode: playback





4. Playback Output Adjustment

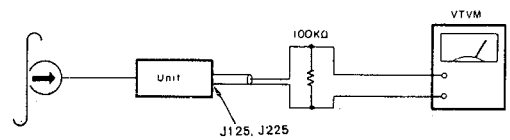
SET UP

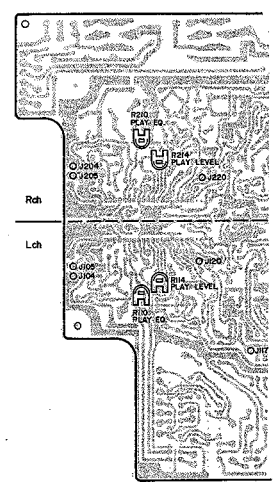
1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. TAPE selector switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal:- MAIN P.W. Board (P100) J120 and J220.
5. Test tape used:- MTT-150.

PROCEDURES

1. Play the test tape MTT-150 back. Adjust R114 and R214 (50kΩ each) for 775mV playback output level.
2. Proceed both for the right and left channels in the same manner.

Mode: playback





CAUTION

1. This adjustment should be performed after the one for the playback equalizer. If the playback equalizer is adjusted after the playback output adjustment, the playback output should be readjusted.

5. VU Meter Adjustment

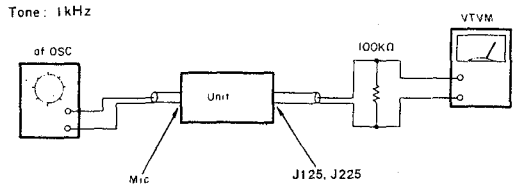
SET UP

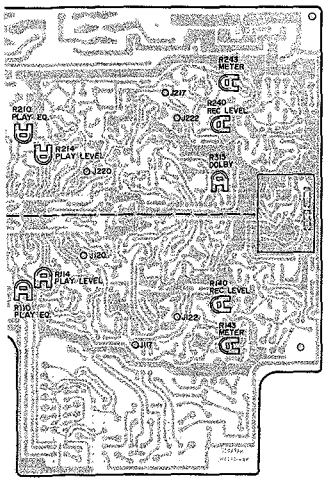
1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. TAPE selector switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal used:- MAIN P.W. Board (P100) J120 and J220.
5. Input terminal:- MIC.

PROCEDURES

1. Connect a 1kHz, –60dBV input signal to the MIC terminal. Set up the tape deck for the recording mode of operation.
2. Adjust the REC control for 775mV output level at MONI. OUT of the MAIN P.W. Board (P100) J120 and J220.
3. Adjust R143 and R243 (3kΩ each) until the VU meter pointer deflects to the DOLBY mark (DD) on the VU meter.

Mode: record





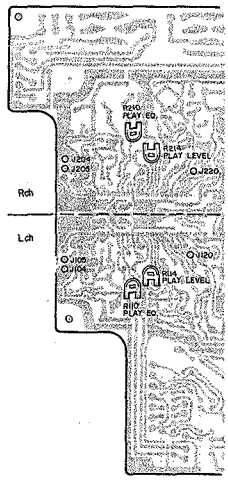
6. Recording Bias Current Adjustment (Temporal)

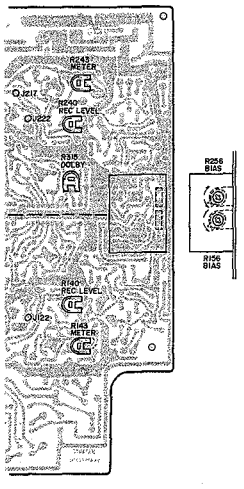
SET UP

1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. TAPE selector switch:- NORMAL.

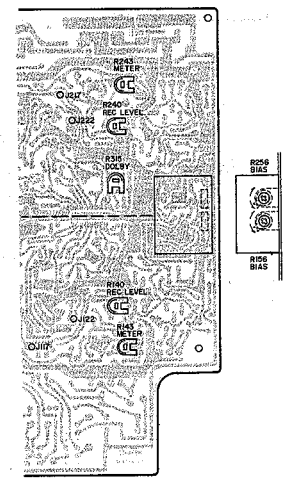
PROCEDURES

1. Set up the tape deck in the recording mode of operation. Connect the VTVM to J104, J105 (Lch) and J204, J205 (Rch). Adjust the semifixed resistor R156 and R256 for 3.5mV VTVM read.
2. Proceed both for the right and left channels in the same manner.
3. For the tape deck equipped with the TAPE selector switch, make certain that the VTVM reads approximately 4.5mV with it set to the CrO_2 position.





7. Recording Current Adjustment (Temporal)

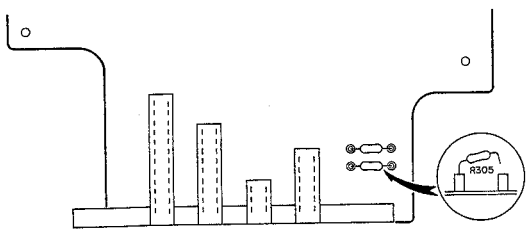


SET UP

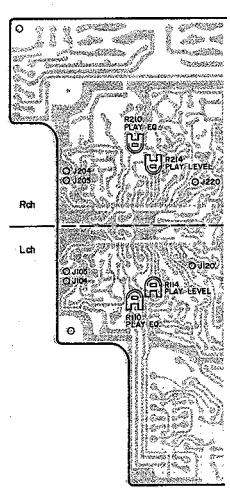
1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Input signal:- 1kHz, –60dB signal.
3. TAPE selector switch positions:- NORMAL.
4. Load:- Measuring instrument input impedance.

PROCEDURES

1. Stop the recording bias current oscillation by disconnecting the bias circuit +B resistor (R305).



2. Set up the tape deck to the normal recording state. Connect the VTVM to J105, J104 (L ch) and J205, J204 (R ch). Adjust the semifixed resistors R140 and R240 until the VTVM reads 0.35mV, respectively.
3. Proceed both for the right and left channels in the same manner.
4. After adjustment, release the recording bias current.



8. Reocrd-Playback Frequency Response Adjustment

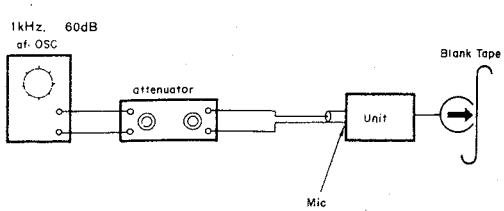
SET UP

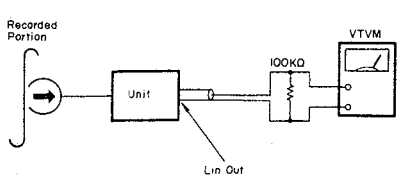
1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Input signal:- 1kHz, −60dB with −20dB referenced as 0VU.
3. TAPE selector switch:- Fe-Cr.
4. Output terminal:- LINE OUT.
5. Load:- Measuring instrument input impedance.
6. Test tape used:- SONY CS-30.

PROCEDURES

1. Connect the input signal to the MIC terminal. Set up the tape deck to the normal recording state.
2. In turn, reduce the input level by 20dB with the use of the attenuator. Record the 1 and 10kHz tones.
3. Play the 1kHz, 20dB-down recorded tone back as 0dB. Adjust the recording bias current until the 10kHz response is within ±1dB as referenced to the 1kHz, 0dB response.
4. Proceed both for the right and left channels in the same manner.
5. If the recording bias current is reduced in the above adjustment, be sure to measure the distortion.

Mode: record





9. Record-Playback Output Level Adjustment

SET UP

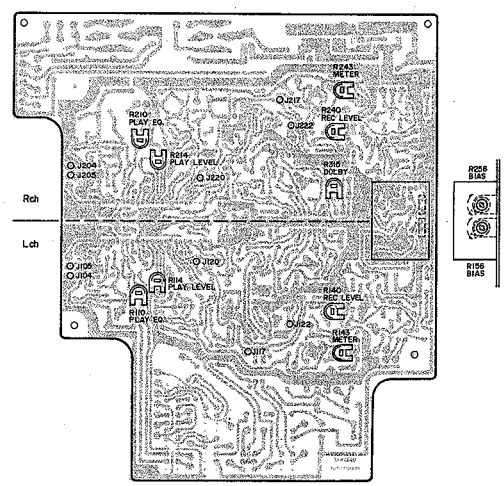
1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Input:- 1kHz, −60dB signal.
3. TAPE selector switch position:- NORMAL.
4. Output terminal:- MAIN P.W. Board (P100) J120 and J220.
5. Load:- Measuring instrument input impedance.
6. Test tape used:- TDK AC-211.

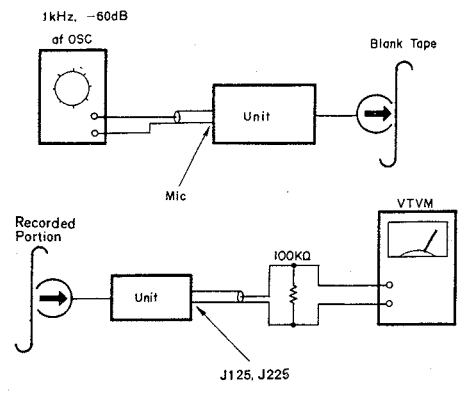
PROCEDURES

1. Connect the 1kHz, −60dB input signal to the MIC terminal. Set up the tape deck to the normal recording state.
2. Adjust the REC LEVEL semi-fixed resistors R140 and R240 until the recorded signal is reproduced at 623mV ±0.5dB.

CAUTION

1. If the bias current is changed, be sure to perform the above adjustment.





10. Adjusting the Dolby Circuit

(1) Encoder circuit

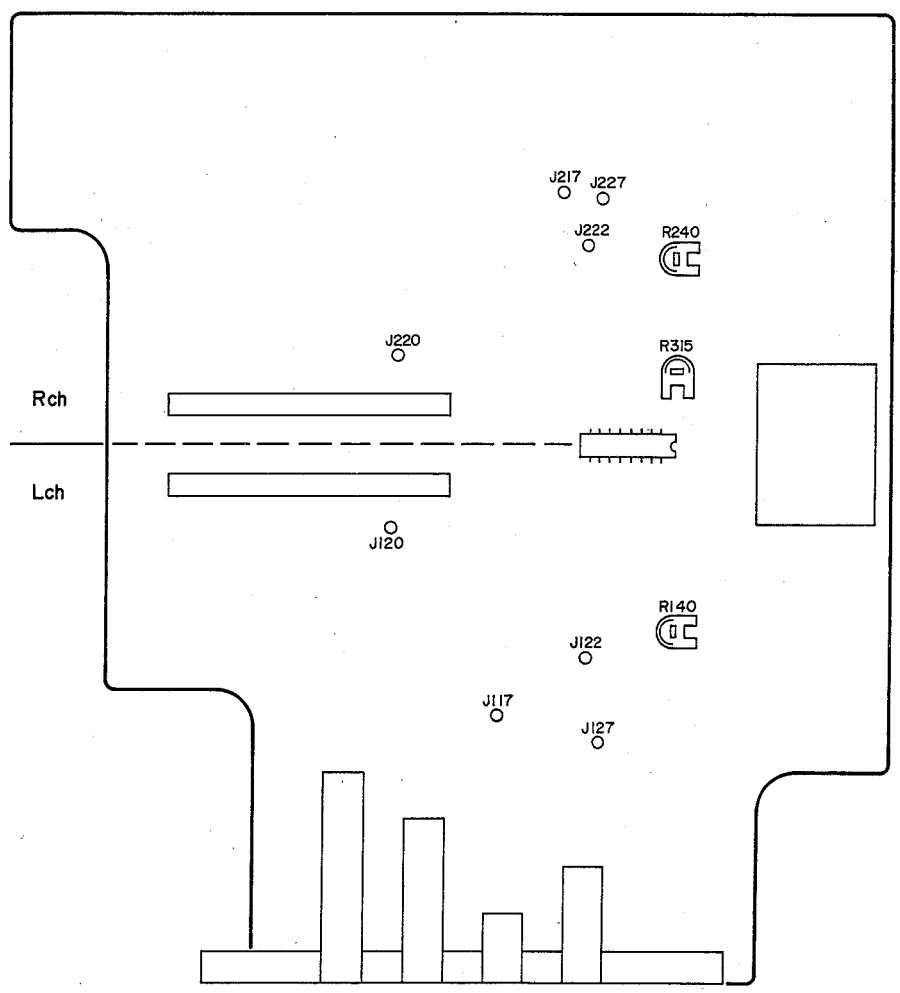
1. Set the 5025 in the recording mode of operation.
2. Set the DOLBY NR switch to the OFF position.
3. Connect a 5 kHz signal to the MIC input jack.
4. Adjust the input signal level until the output voltage at J120 or J220 is 23.5 mV.
5. In that state, measure the output level at the REC OUT jack J122 or J222 provided for the DOLBY NR switch.
6. Turn the DOLBY NR switch to the ON position.
7. Adjust the LAW CONT semi-fixed resistor R315 until the output level at J122 or J222 is 8±0.25 dB higher than the one obtained in Step 5 above.

(2) Decoder circuit

1. Set the 5025 in the playback mode of operation.
2. Set the DOLBY NR switch to the OFF position.
3. Connect a 5 kHz signal to J117 or J217.
4. Adjust the input signal level until the output voltage at J200 or J220 is 59 mV.
5. Turn the DOLBY NR switch to the ON position.
6. Make certain that the output level at J120 or J220 is 8±0.5 dB lower than the one obtained in Step 4 above.

CAUTIONS

1. **If the output level is not in the above-mentioned allowable range, repeat adjustment beginning with the encoder circuit, not from the circuit in any case.**
2. **The LAW CONT semi-fixed resistor R315 serves for both right and left channles. Adjustment therefore may be made either for the right or left channel.**



11. Tape Speed Measurement

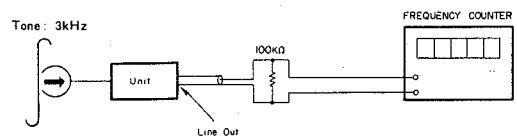
SET UP

1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Output terminal:- LINE OUT.
3. Test tape used:- MTT-111.
4. Set position:- Horizontal

PROCEDURES

1. Play the wound-up end of the test tape MTT-111 back. Read the frequency counter indication.

Mode: playback



STANDARD

Tape speed:- 4.8cm/sec **±1.5%.**
Frequency: **2955 to 3045Hz.**

CAUTION

The tape deck should be leveled as specified for this measurement.

12. Wow and Flutter Measurement

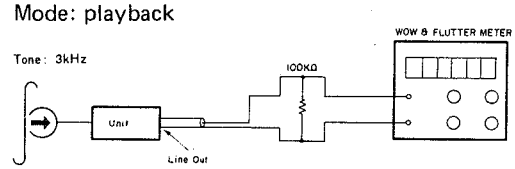
SET UP

1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Output terminal:- LINE OUT.
3. Load:- Measuring instrument input impedance.
4. Test tape used:- MTT-111.
5. Set position:- Horizontal.
6. **Wow & flutter meter function switch:-NAB WTD- for U and C, DIN WTD- for N.**

PROCEDURES

1. Play the test tape MTT-111 back. Read the wow & flutter meter indication.

Mode: playback



STANDARD

Less than NAB WTD 0.09% in rms (for U and C).
Less than DIN WTD 45511B4 0.12% in rms (for N).

CAUTION

The measurement should be performed at the wound-up end of the test tape.

13. Playback Output Level Measurement (at LINE OUT)

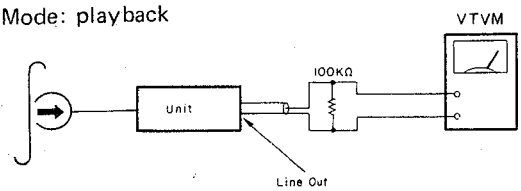
SET UP

1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. TAPE selector switch position: NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal:- LINE OUT.
5. Test tape used:- MTT-112.

PROCEDURES

1. Play the test tape back in the normal playback state. Read the VTVM indication.
2. Proceed both for the right and left channels in the same manner.

Mode: playback



STANDARD

Within 800mV ±3dB.

14. Playback Signal-to-Noise Ratio Measurement

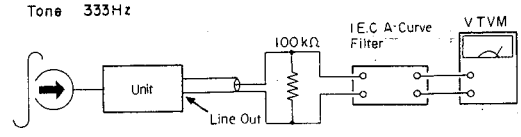
SET UP

1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Load:- Measuring instrument input impedance.
3. Measuring output terminal:- LINE OUT.
4. Test tape used:- MTT-112 (333Hz tone).
5. TAPE selector switch position:- NORMAL, CrO_2 and Fe-Cr.

PROCEDURES

1. Load the test tape MTT-112. Set up the tape deck to the normal playback state.
2. Read playback output as a 0dB reference with the use of the I.E.C.A. curve Filter.
3. Proceed both for the right and left channels in the same manner.
4. Repeat the above measurement for each TAPE selector switch position.

Mode: playback
Tone 333Hz



STANDARD

Greater than 51dB.

CAUTIONS

1. Arrange the tape deck power cord for minimum hum component.
2. Effect by induction noises should be minimized for the measurement.
3. When playing the standard reference level tape MTT-112 back, the VU meter indication is close to +2.5 VU and is used as the reference level for the signal-to-noise ratio measurement.

15. Playback Frequency Response Measurement

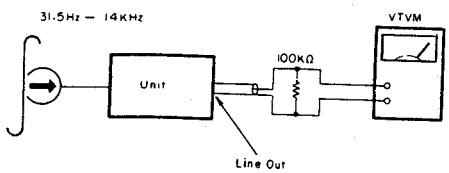
SET UP

1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. TAPE selector switch position:- NORMAL and CrO_2 or Fe-Cr.
3. Load:- Measuring instrument input impedance.
4. Measuring output teminal:- LINE OUT.
5. Test tape used:-
   MTT-116U (for NORMAL).
   MTT-116K (for CrO_2 or Fe-Cr).

PROCEDURES

1. Play the test tape MTT-116U and MTT-116K back. Let the 315Hz output level be 0dB as reference level.
2. Read the 40Hz and 10kHz output level differences from the 315Hz, 0dB reference level.
3. Proceed both for the right and left channels in the same manner.
4. For the above measurement, use the test tape MTT-116U for the NORMAL position and MTT-116K for the CrO_2 or Fe-Cr.

Mode: playback



STANDARD

In reference to the 315Hz, 0dB signal output level,

40Hz - 6.3kHz . . . . . ±2.5dB
40Hz - 10kHz . . . . . +2.5, –3dB
14kHz . . . . . ±4dB

CAUTION

Since the test tapes used may involve some head azimuth difference, the head azimuth should be corrected at the highest frequency of each test tape before measurement.

16. Record-Playback Output Level Measurement (at LINE OUT)

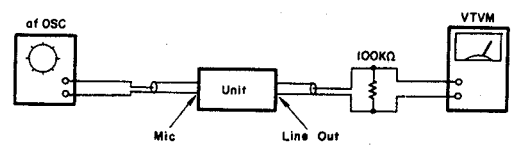
SET UP

1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Input: 1kHz, –60dB signal.
3. Load:- Measuring instrument input impedance.
4. Level control position:- SRL for recording operation.
5. TAPE selector switch position:- NORMAL, CrO_2 and Fe-Cr.
6. Measuring output terminal:- LINE OUT.
7. Cassette tape used:- TDK AC-211, AC-511 and SONY CS-30.

PROCEDURES

1. Record the 1kHz, –60dB signal in the normal recording state.
2. Play the recorded signal back. Read the VTVM indication.
3. Proceed for the NORMAL, CrO_2 and Fe-Cr positions each in the same manner.
4. Proceed both for the right and left channels in the same manner.

Mode: reocrd



STANDARDS

1. NORMAL position: 560mV ± 2dB
2. CrO_2 position: 560mV ± 2dB
3. Fe-Cr position: 560mV ± 2dB

17. Record-Playback, Harmonic Distortion Measurement

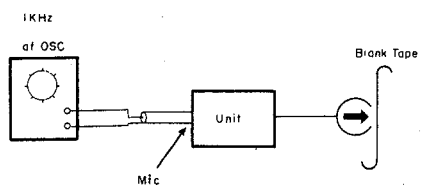
SET UP

1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Input:- 1kHz, –60dB signal.
3. Playback output level:- Same as the recorded signal level.
4. Load:- Measuring instrument input impedance.
5. Measuring output terminal:- LINE OUT.
6. Cassette tape used:- TDK AC-211, AC-511 and SONY CS-30.

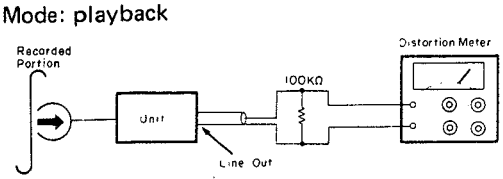
PROCEDURES

1. Record the 1kHz signal in the normal recording state.
2. Play the recorded signal back in the normal playback state. Calibrate the harmonic distortion meter to 100% at the INPUT CONT. Adjust the adjusting knob for minimum meter pointer deflection, and read the harmonic distortion.
3. Proceed both for the right and left channels in the same manner.
4. Proceed for the NORMAL, CrO_2 and Fe-Cr positions each in the same manner.

Mode: record



Mode: playback



STANDARDS

1. Less than 2.5% for the NORMAL and CrO_2 positions.
2. Less than 3.5% for the Fe-Cr position.

CAUTIONS

1. Be sure to demagnetize the heads as the measured values may deviate from the accurate values.
2. Note that excessive wow and flutter aiso causes deviation of the measured values.

18. Record-Playback Signal-to-Noise Ratio Measurement

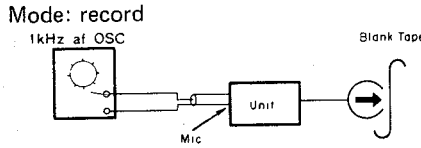
SET UP

1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Input:- 1kHz, –60dB signal.
3. Playback output level:- Same as the recorded signal level.
4. Load:- Measuring instrument input impedance.
5. Measuring output terminal:- LINE OUT.
6. Cassette tape used:- TDK AC-211, AC-511 and SONY CS-30.

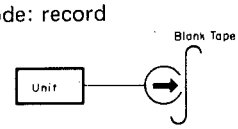
PROCEDURES

1. Record the 1kHz signal in 3dB above the normal recording state.
2. Disconnect the input signal from the microphone jack. In this state, record no signal.
3. Play the 1kHz signal back in the normal playback state with the use of the I.E.C. A-Curve filter. Let the output level be 0dB as reference level.
4. Read difference between the recorded 0dB reference output and no-signal output levels.
5. Proceed both for the right and left channels in the same manner.
6. Set the DOLBY switch to the ON position, and proceed with similar measurement.
   the use of the high-pass filter.

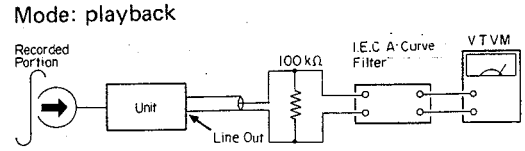
Mode: record



Mode: record



Mode: playback



STANDARDS

1. Greater than 57dB for the ON position of the DOLBY switch.
2. Greater than 51dB for the OFF position of the DOLBY switch.

CAUTION

Arrange the tape deck power cord for minimum hum component.

19. Record-Playback Frequency Response Measurement

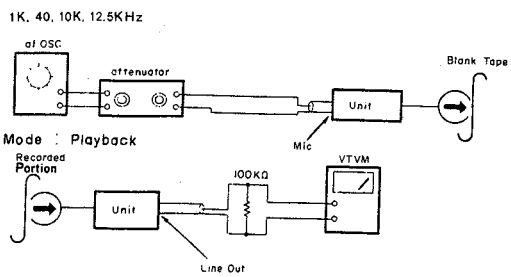
SET UP

1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Input:- 1kHz, −60dB signal with −20dB as 0VU.
3. Playback output level:- Same as the recorded signal level.
4. Load:- Measuring instrument input impedance.
5. Measuring output terminal:- LINE OUT.
6. Cassette tape used:- TDK AC-211, AC-511 and SONY CS-30.

PROCEDURES

1. Record the 1kHz signal in the normal recording state. In turn, reduce the input level by 20dB with an attenuator. Then, record the 1kHz, 40Hz, 10kHz, 13kHz, 14kHz and 15kHz signals.
2. Play the recorded 1kHz signal back in the normal playback state.
3. Let the 1kHz, −20dB-down signal level be 0dB as reference level. Read difference of the 40Hz, 10kHz, 13kHz, 14kHz and 15kHz signal output levels from the 1kHz signal 0dB reference level.
4. Proceed for the NORMAL, CrO_2 and Fe-Cr positions each in the same manner.
5. Proceed both for the right and left channels in the same manner.

Mode: record



STANDARDS

1. NORMAL position:
   250Hz - 6.3kHz . . . . . ±2.5dB
   40Hz - 13.5kHz . . . . . +3, −4dB
   with DOLBY switch at OFF.
2. CrO_2 position:
   250Hz - 6.3kHz . . . . . ±2.5dB
   40Hz - 15kHz . . . . . +3, −4dB
   with DOLBY switch at OFF.
3. Fe-Cr position:
   250Hz - 6.3kHz . . . . . ±2.5dB
   40Hz - 16kHz . . . . . +3, −4dB
   with DOLBY switch at OFF.
4. NORMAL, CrO_2 and Fe-Cr positions:
   250Hz - 6.3kHz . . . . . ±4dB
   40Hz - 10kHz . . . . . +4, −6dB
   with DOLBY switch at ON.

20. Erasing Effect Measurement

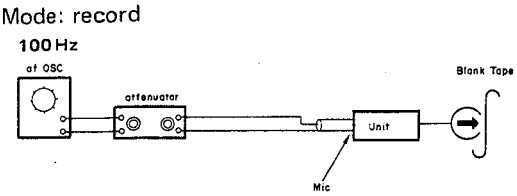
SET UP

1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Input:-100Hz, –60dB signal with +10dB as 0VU.
3. Playback output level:- Same as the recorded signal level.
4. Load:- Measuring instrument input impedance.
5. TAPE selector switch position:- NORMAL, CrO_2 and Fe-Cr.
6. Cassette tape used:- TDK AC-211, AC-511 and SONY CS-30.
7. Filter used:-100Hz band-pass filter.

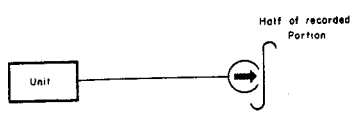
PROCEDURES

1. Record the100Hz input signal in the normal recording state.
2. In turn, increase the input level by 10dB with the attenuator, and record it.
3. Rewind a half portion of the 10dB-up tape and record in no-signal state, or erase, on the portion with the input signal disconnected from the microphone jack.
4. Play back in the normal playback state the input signal recorded in the normal recording state.
5. In turn, let the 10dB-up recorded signal level be 0dB as reference level. Read difference of the level at the erased portion from the 0dB reference level.

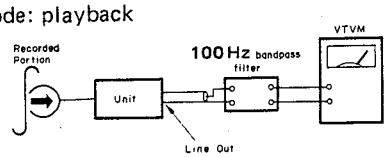
Mode: record



Mode: record



Mode: playback



STANDARD

Greater than 55dB.

21. Leak Bias Measurement

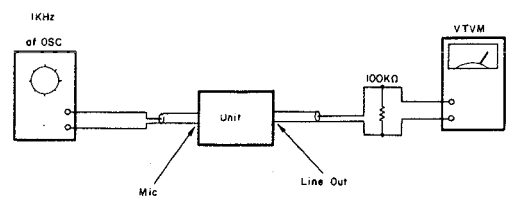
SET UP

1. Power voltage:- 50 or 60Hz AC voltage rated for the unit to be used in a market country.
2. Input:- 1kHz, –60dB signal.
3. Load:- Measuring instrument input impedance.
4. Level control position:- SRL.
5. TAPE selector switch position:- NORMAL, CrO_2 and Fe-Cr.

PROCEDURES

1. Record the 1kHz input signal in the normal recording state. Let the monitor output level at the LINE OUT terminal be 0dB as reference level. Read difference of the output level having the input signal disconnected from the 0dB reference level.
2. Proceed both for the right and left channels in the same manner.

Mode: record



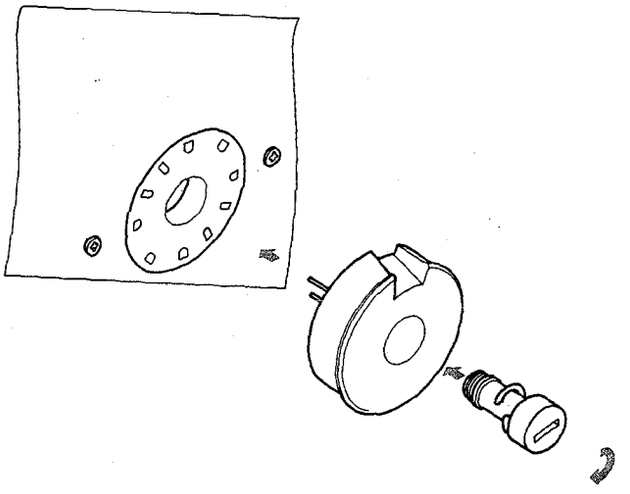
STANDARD

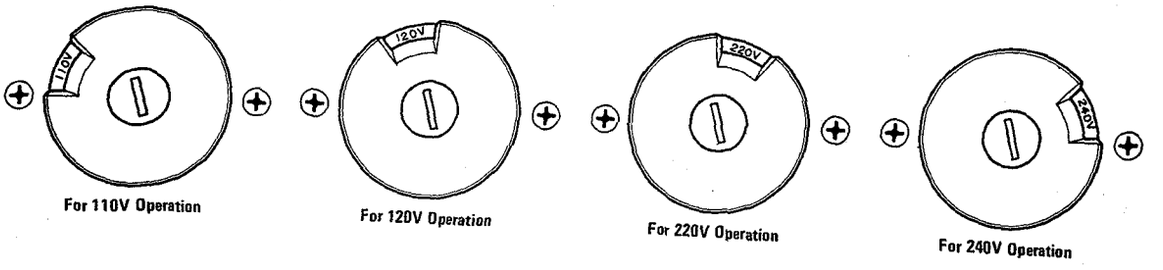
Lower than –45dB.

5. VOLTAGE CONVERSION FOR EUROPEAN MODEL

The European version of the Model 5025 is equipped with a universal power transformer that may be adjusted to operate at 110 V, 120 V, 220 V, or 240 V AC at 50 to 60 Hz. To convert the unit to a different power source voltage, reposition conversion plug as illustrated in the drawing below.

CAUTION: DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.





For 110V Operation

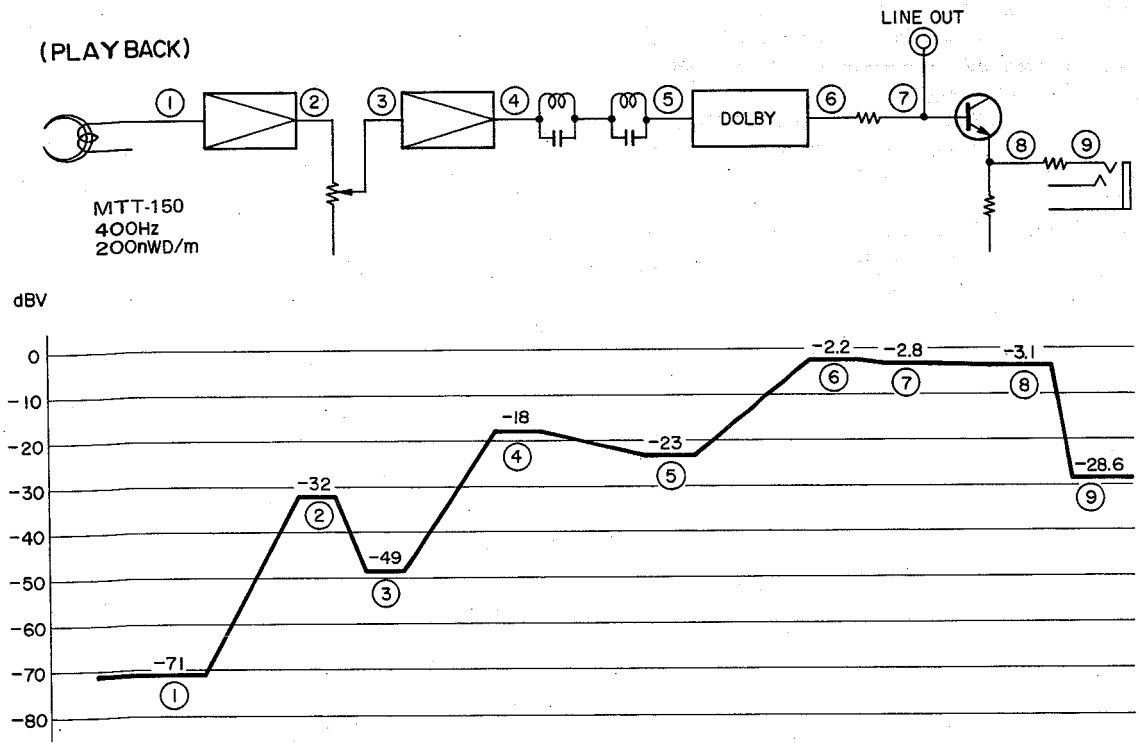
For 120V Operation

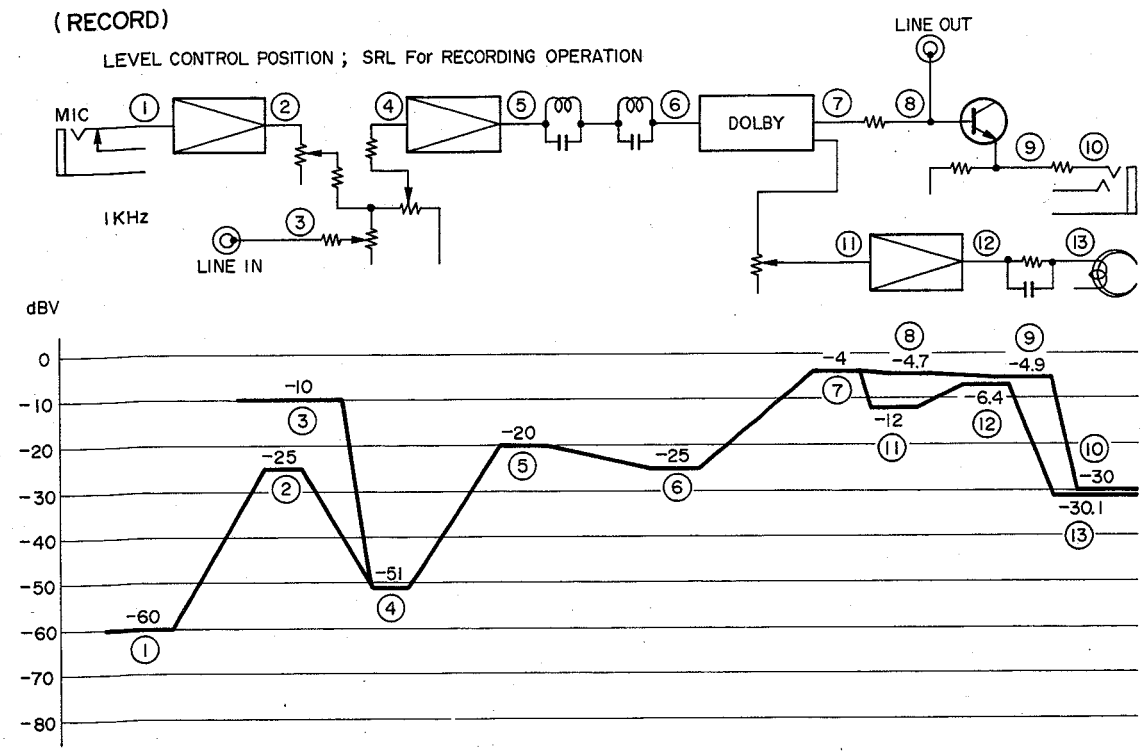
For 220V Operation

For 240V Operation

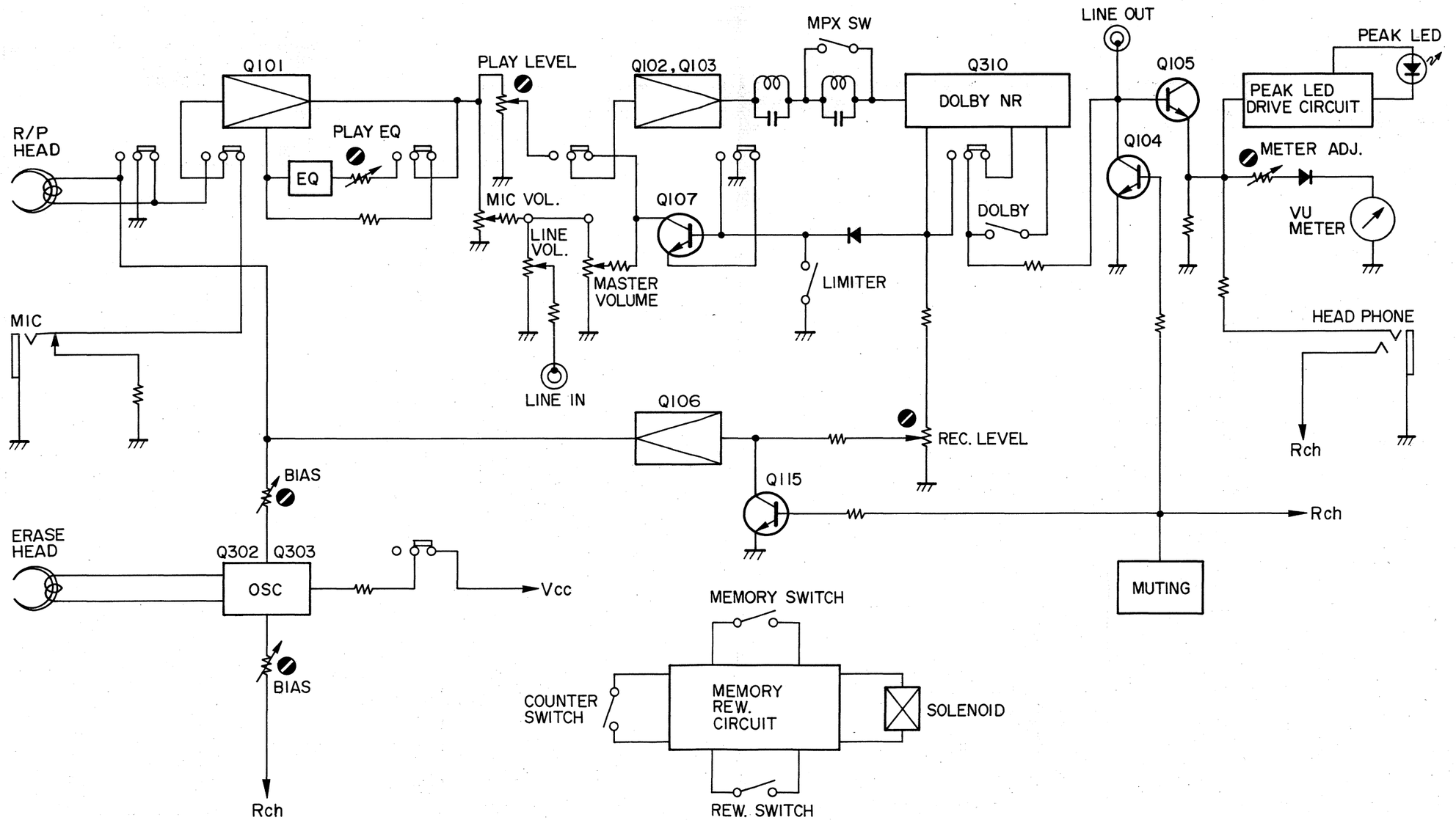
6. DIAGRAMS

6.1 LEVEL DIAGRAM





6.2 BLOCK DIAGRAM



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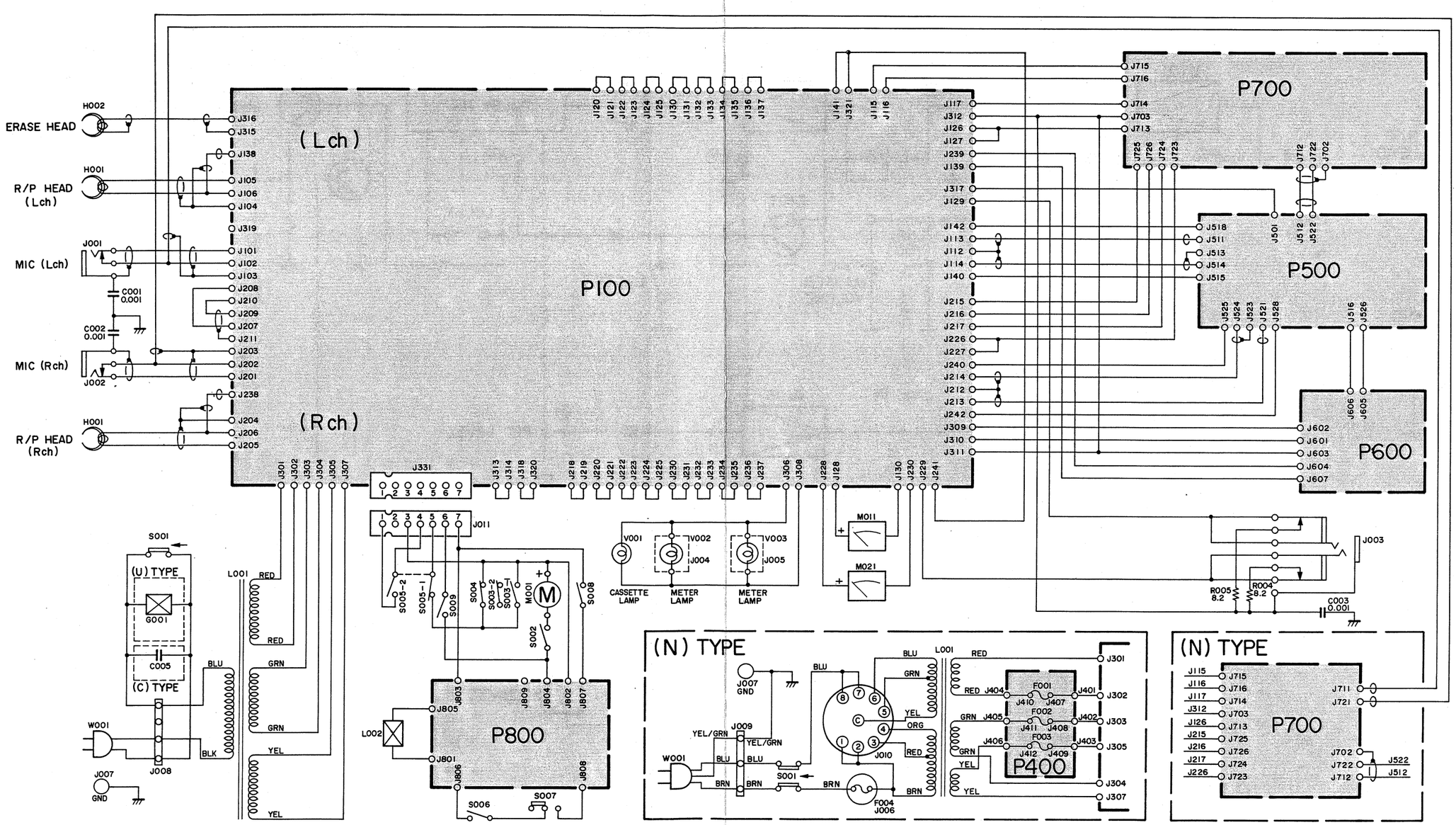
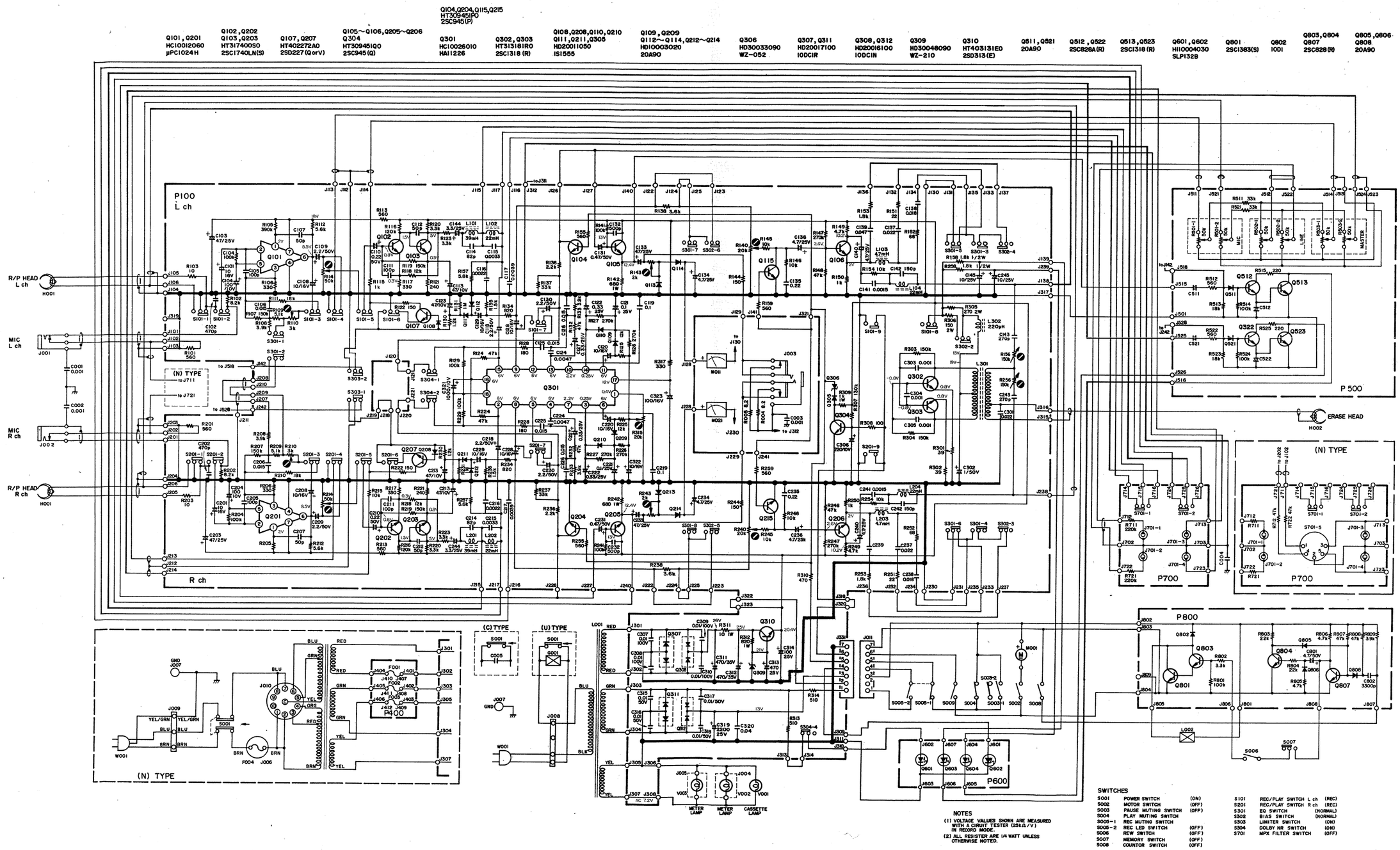
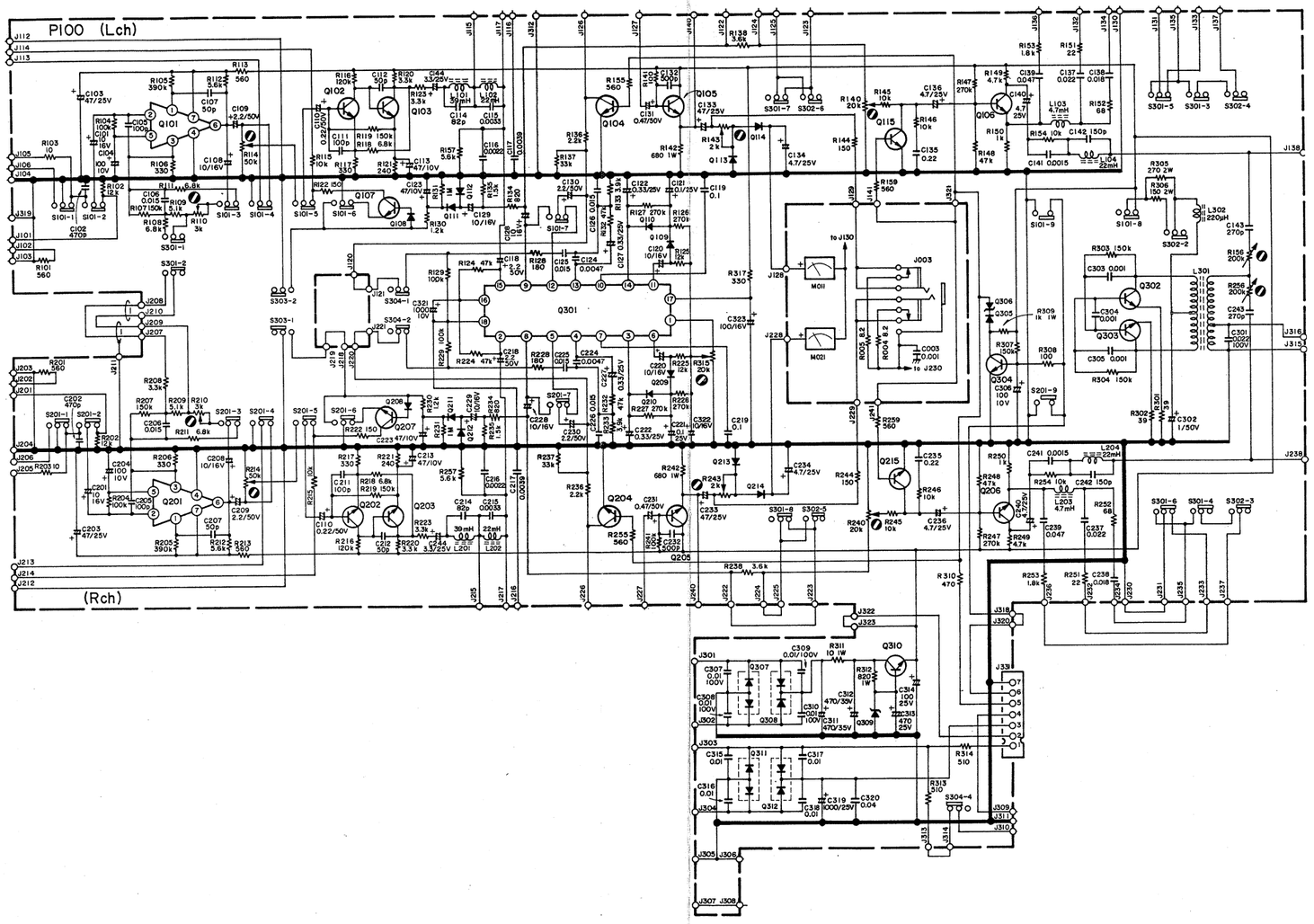
6.3 CONNECTION DIAGRAM

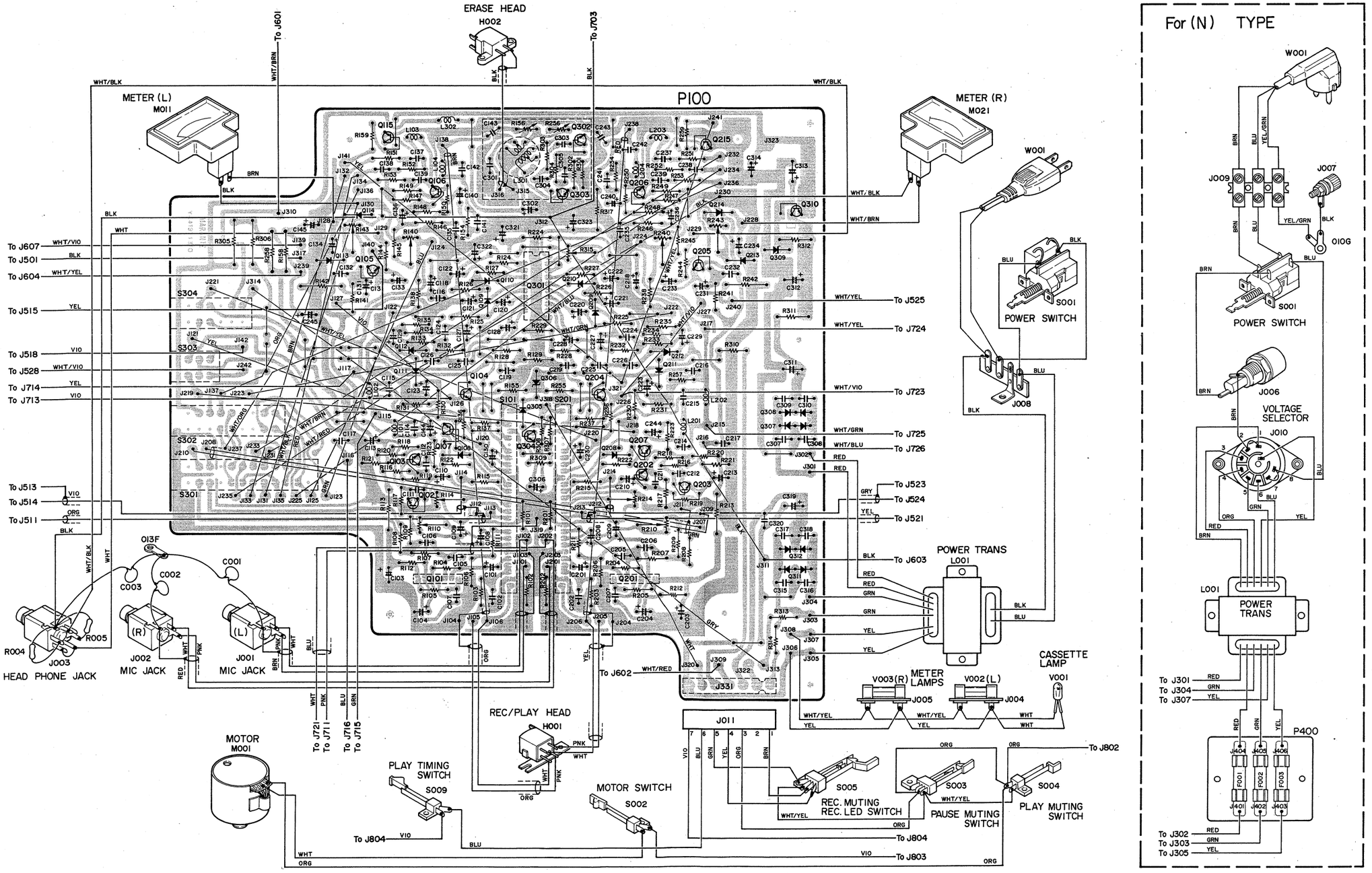


6.4 SCHEMATIC DIAGRAM

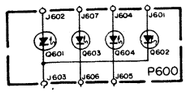

Q101, Q201 HC1001/2060 µPC1024H
Q102, Q202 Q103, Q203 HT317400S0 2SC1740LN(S)
Q107, Q207 HT402272A0 2SD227(Q or V)
Q105~Q106, Q205~Q206 Q304 HT309451Q0 2SC945(Q)
Q104, Q204, Q115, Q215 HT309451P0 2SC945(P)
Q301 HC10026010 HA11226
Q302, Q303 HT315181R0 2SC1318(R)
Q108, Q208, Q110, Q210 Q111, Q211, Q305 HD2001105D IS1555
Q109, Q209 Q112~Q114, Q212~Q214 HD1000302D 20A90
Q306 HD30033090 WZ-052
Q307, Q311 HD2001710D 10DGIR
Q308, Q312 HD2001610D 10DGIN
Q309 HD30048090 WZ-210
Q310 HT403131E0 2SD313(E)
Q511, Q521 20A90
Q512, Q522 2SC828A(R)
Q513, Q523 2SC1318(R)
Q601, Q602 HI10004030 SLPI32B
Q801 2SC1383(S)
Q802 10DI
Q803, Q804 Q807 2SC828(R)
Q805, Q806 Q808 20A90
P100 L ch
R ch
R/P HEAD L ch H001
R/P HEAD R ch H001
MIC L ch J001
MIC R ch J002
ERASE HEAD H002
(N) TYPE
P400
P500
P600
P700
P800
SWITCHES
S001 POWER SWITCH (ON)
S002 MOTOR SWITCH (OFF)
S003 PAUSE MUTING SWITCH (OFF)
S004 PLAY MUTING SWITCH
S005-1 REC MUTING SWITCH
S005-2 REC LED SWITCH (OFF)
S006 REW SWITCH (OFF)
S007 MEMORY SWITCH (OFF)
S008 COUNTOR SWITCH (OFF)
S101 REC/PLAY SWITCH L ch (REC)
S201 REC/PLAY SWITCH R ch (REC)
S301 EQ SWITCH (NORMAL)
S302 BIAS SWITCH (NORMAL)
S303 LIMITER SWITCH (ON)
S304 DOLBY NR SWITCH (ON)
S701 MPX FILTER SWITCH (OFF)
NOTES
(1) VOLTAGE VALUES SHOWN ARE MEASURED WITH A CIRUIT TESTER (25kΩ/V) IN RECORD MODE.
(2) ALL RESISTER ARE 1/4 WATT UNLESS OTHERWISE NOTED.

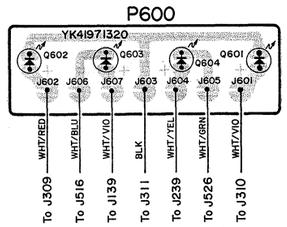
6.5 PRE-AMP, POWER SUPPLY, DOLBY BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P100



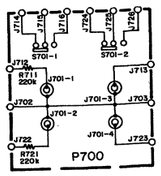

ERASE HEAD
H002
To J601
To J703
WHT/BRN
BLK
WHT/BLK
METER (L)
M011
METER (R)
M021
P100
BRN
BLK
WHT
To J607 WHT/VIO
To J501 BLK
To J604 WHT/YEL
To J515 YEL
To J518 VIO
To J528 WHT/VIO
To J714 YEL
To J713 VIO
To J513 VIO
To J514 ORG
To J511 BLK
To J525 WHT/YEL
To J724 WHT/YEL
To J723 WHT/VIO
To J725 WHT/GRN
To J726 WHT/BLU
To J523 RED
To J524 GRY
To J521 YEL
To J603 BLK
RED
RED
GRN
GRN
YEL
YEL
To J602 WHT/RED
To J802 ORG
To J804 VIO
To J804 BLU
To J803 WHT
To J803 ORG
WOO1
POWER SWITCH
SOO1
JOO8
POWER TRANS
LOO1
CASSETTE LAMP
VOO1
V003(R) METER LAMPS
V002(L)
JOO5
JOO4
013F
C001
C002
C003
R004
R005
J003
HEAD PHONE JACK
(R)
J002
MIC JACK
(L)
J001
MIC JACK
REC/PLAY HEAD
H001
MOTOR
M001
PLAY TIMING SWITCH
SOO9
MOTOR SWITCH
SOO2
J011
SOO5
REC. MUTING
REC. LED SWITCH
SOO3
PAUSE MUTING SWITCH
SOO4
PLAY MUTING SWITCH
To J721
To J711
To J716
To J715
S304
S303
S302
S301
S101
S201
Q115
Q302
Q215
Q106
Q206
Q303
Q214
Q105
Q205
Q310
Q301
Q104
Q204
Q107
Q207
Q202
Q203
Q101
Q201
Q102
Q103
Q108
Q208
Q303
Q304
Q306
Q307
Q308
Q309
Q311
Q312
Q313
Q211
Q212
Q213
Q110
Q111
Q210
Q209
For (N) TYPE
WOO1
BRN
BLU
YEL/GRN
JOO9
JOO7
BLK
OIOG
SOO1
POWER SWITCH
JOO6
VOLTAGE SELECTOR
JO10
ORG
YEL
RED
GRN
LOO1
POWER TRANS
To J301 RED
To J304 GRN
To J307 YEL
P400
FOO1
FOO2
FOO3
J401
J402
J403
J404
J405
J406
To J302 RED
To J303 GRN
To J305 YEL

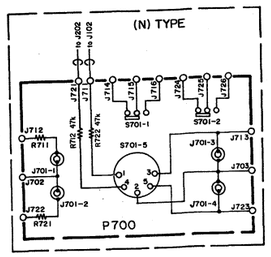
6.6 LED BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P600

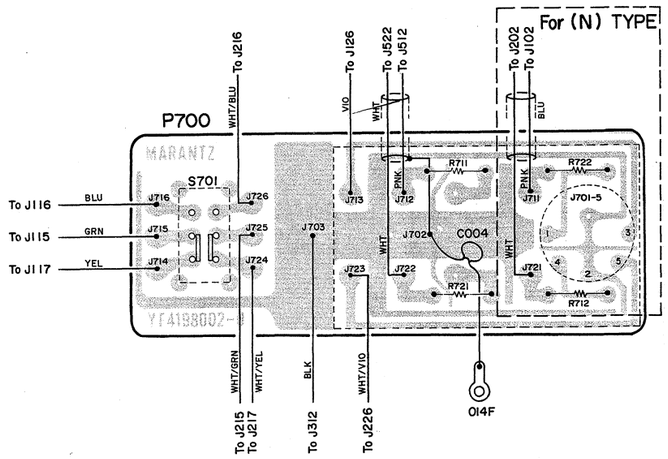




6.7 TERMINALS BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P700

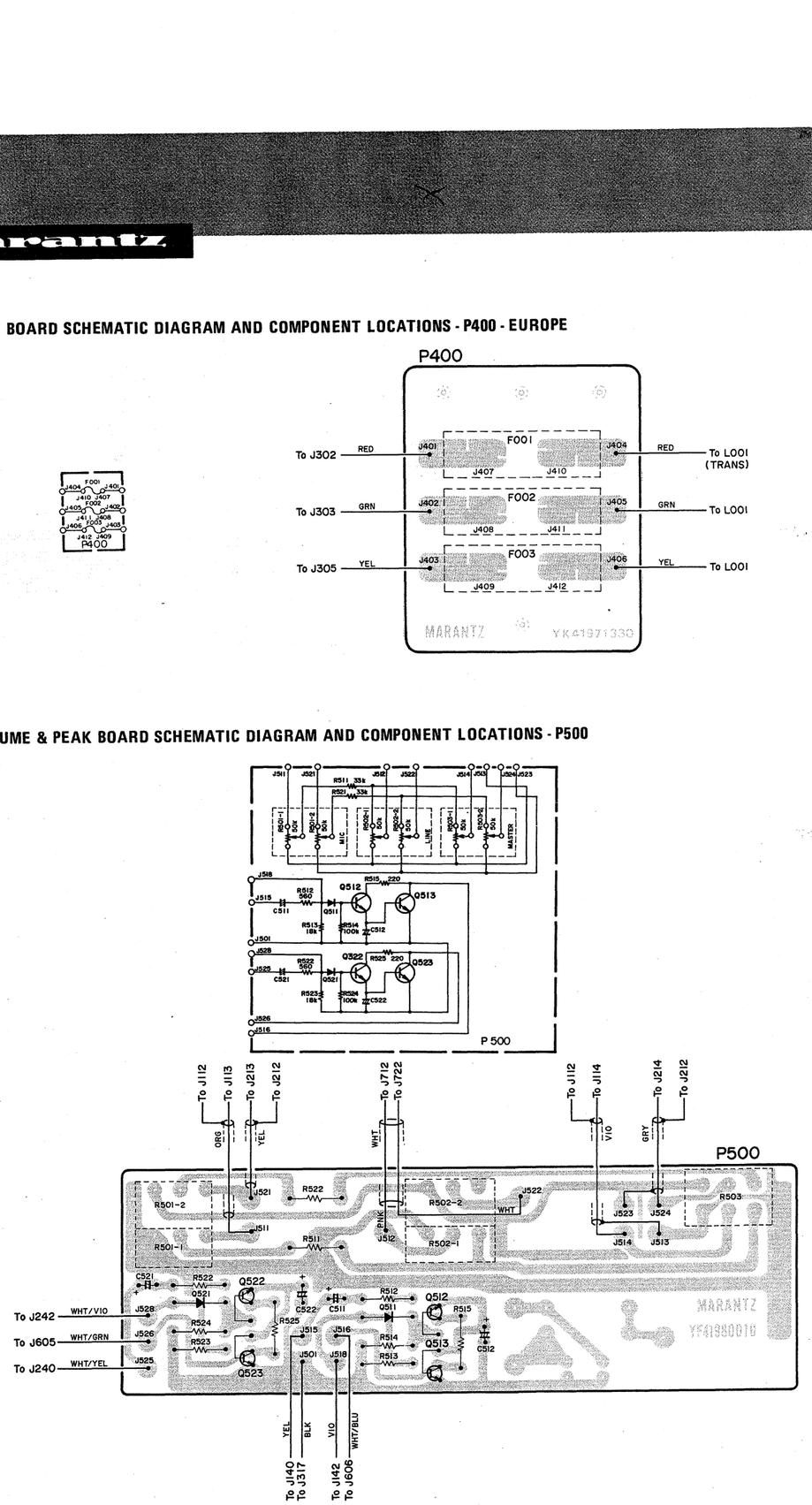




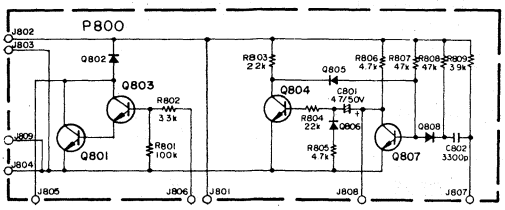


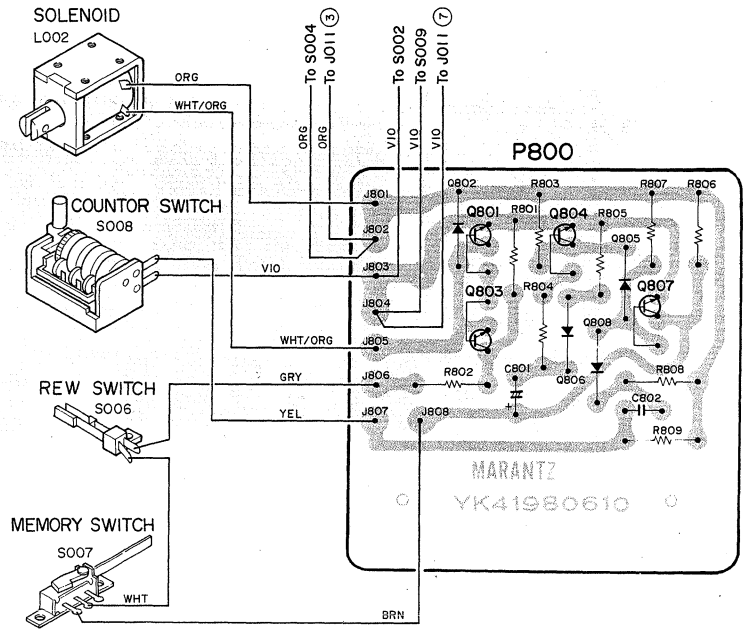
6.8 FUSE BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P400 - EUROPE

6.9 VOLUME & PEAK BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P500



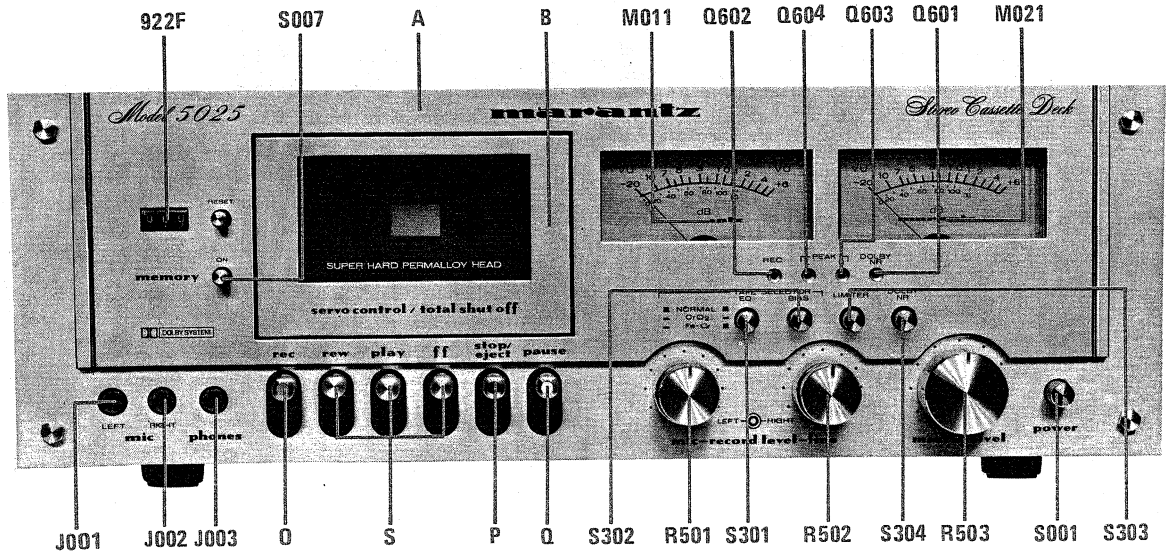
6.10 MEMORY BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P800



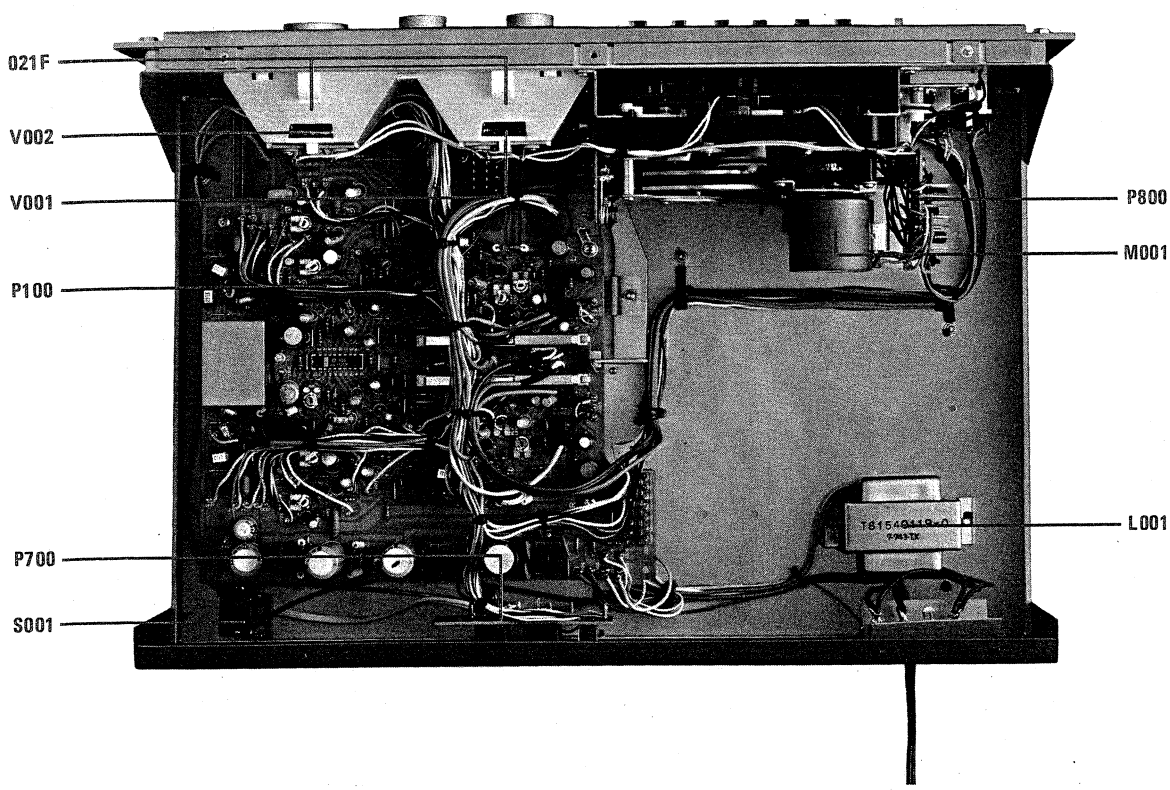


7. MAJOR COMPONENT LOCATIONS

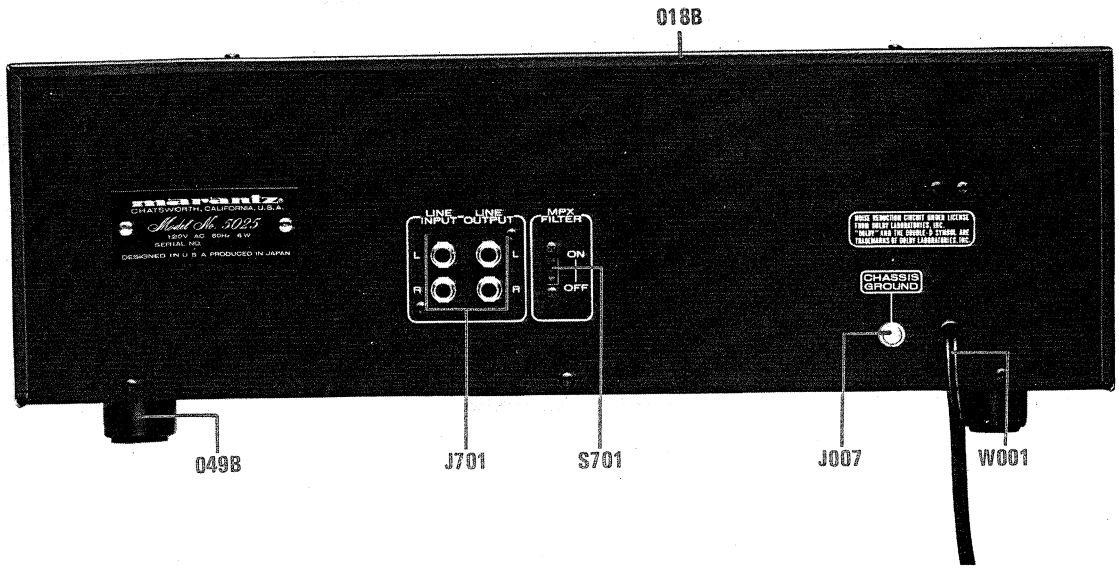
7.1 CABINET - FRONT VIEW



7.2 CHASSIS - TOP VIEW



7.3 CABINET - REAR VIEW



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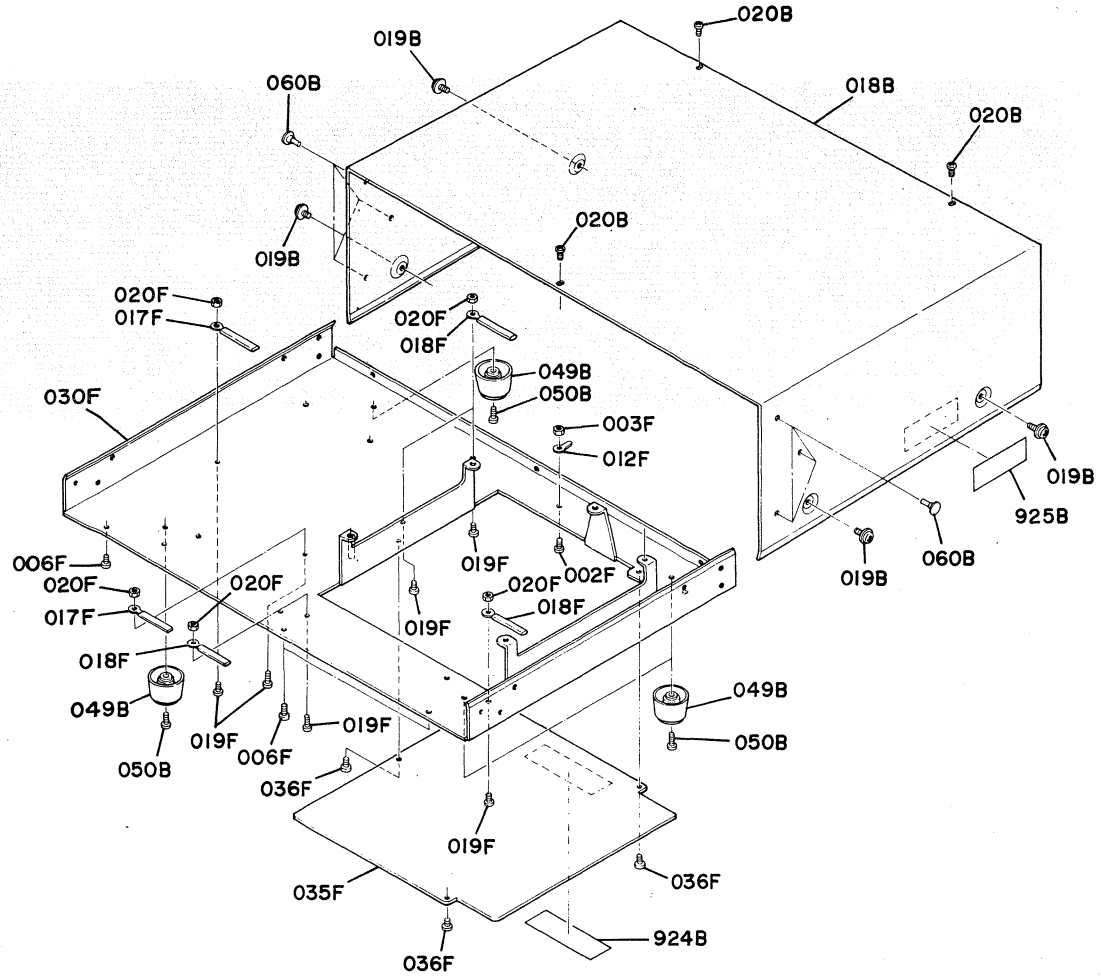
8. EXPLODED VIEWS AND PARTS LIST

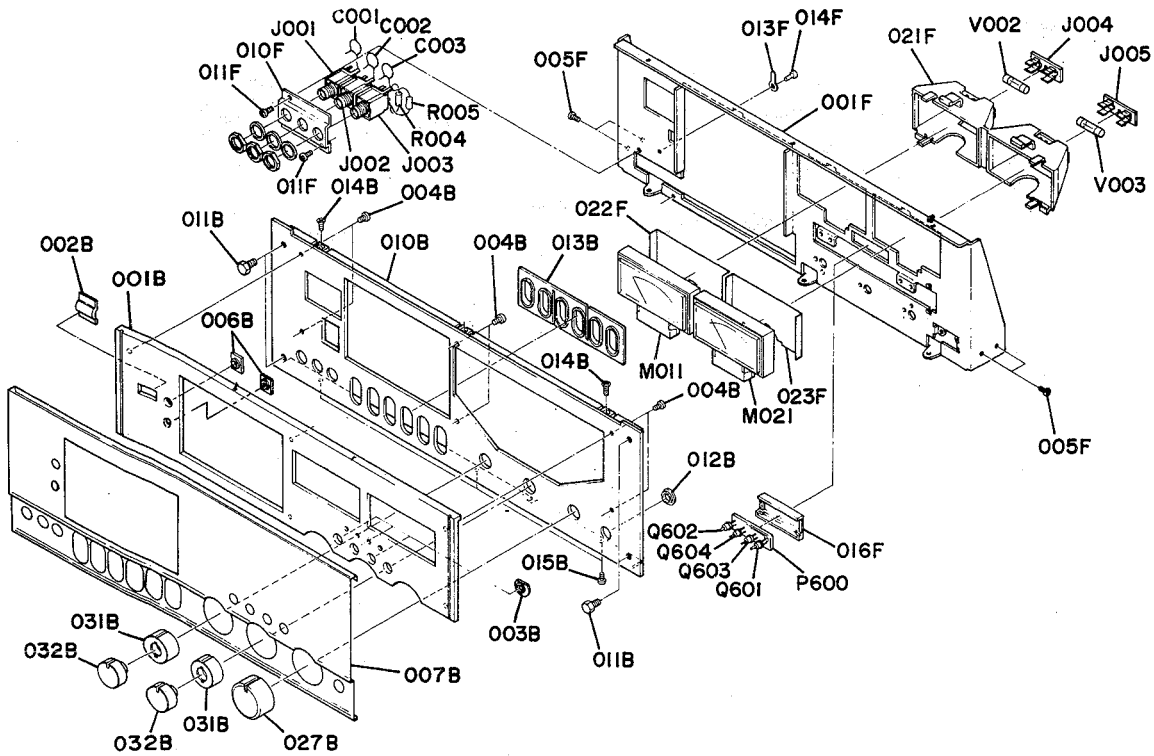
8.1 [P01-00] TOP COVER AND MAIN CHASSIS



REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
018B	1	1	1	4197257022	Lid, Top Cover
019B	4	4	4	5148040659	F. Washer Screw
020B	3	3	3	5110030659	B.H.M. Screw B3 x 6
049B	4	4	4	2932057010	Leg
050B	4	4	4	5157041050	P. TAP. Screw P4 x 10
060B	6	6	6	4197259020	Bushing
924B	1		1	3889861010	Label
924B		1		4113861020	Label
925B	1		1	2932861010	Label
925B		1		2911861142	Label

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
002F	1	1	1	51100306A9	B.H.M. Screw B3 x 6
003F	1	1	1	53110030A9	Hexagon Nut
006F	3	3	3	51100306A9	B.H.M. Screw B3 x 6
012F	1	1	1	62030049W0	Lug
017F	2	2	2	2871005010	Clamper
018F	5	5	5	1382005030	Clamper
019F	6	6	6	51100306A9	B.H.M. Screw B3 x 6
020F	6	6	6	53110303A9	Hexagon Nut
030F	1	1	1	4197105504	Chassis
035F	1	1	1	4197257030	Lid
036F	3	3	3	51280306B0	B.H. TAP. Screw B3 x 6

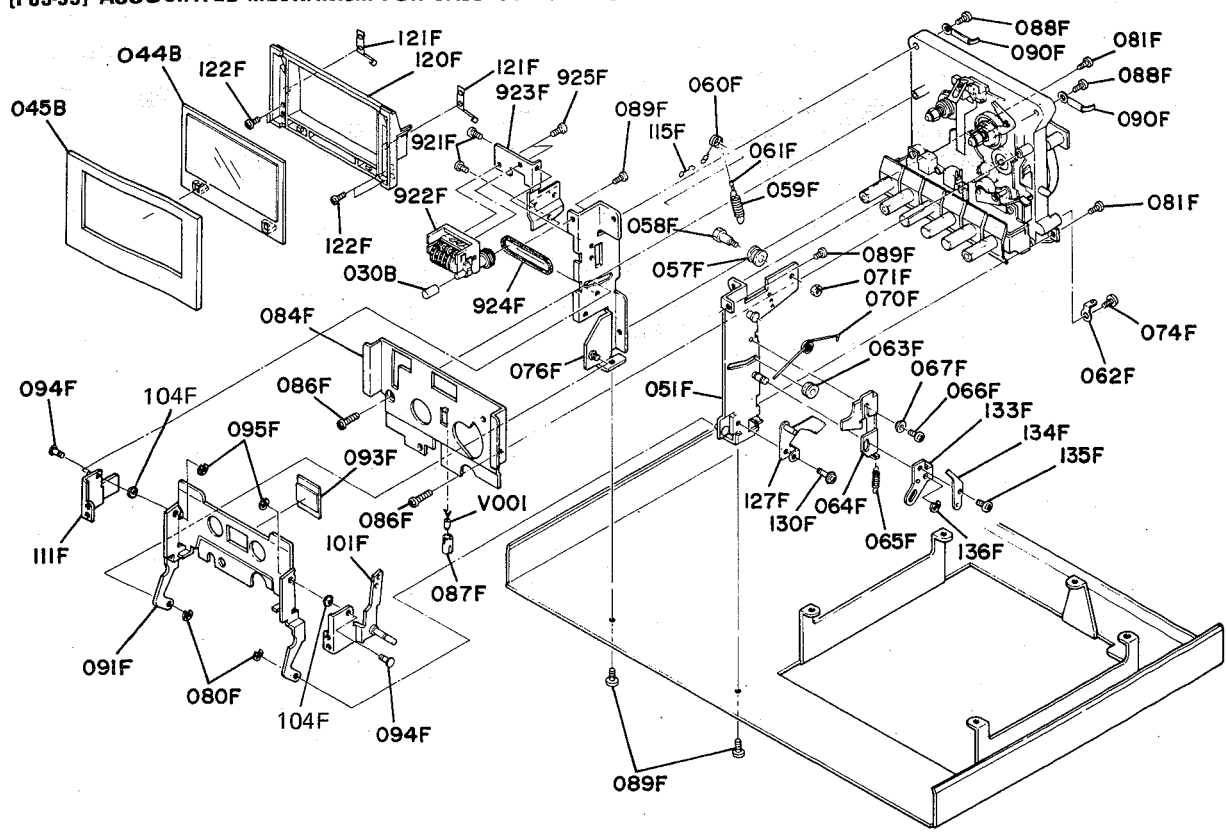
8.2 [P02-99] FRONT PANEL AND CHASSIS



REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
A	1	1	1	4198063400	Front Panel Assembly
001B	1	1	1	4198063012	Escutcheon
002B	1	1	1	4123158032	Window
003B	4	4	4	3448259010	Bushing
004B	6	6	6	51100305A9	B.H.M. Screw B3 x 5
006B	2	2	2	3448259100	Bushing
007B	1	1	1	4198053012	Cover
010B	1	1	1	4198063022	Escutcheon
012B	1	1	1	2221259013	Bushing
013B	1	1	1	4197259010	Bushing
011B	4	4	4	52017069J0	H. Head Bolt
014B	2	2	2	51040306A9	F.H.M. Screw F3 x 6
015B	3	3	3	51100306A9	B.H.M. Screw B3 x 6
027B	1	1	1	4197154010	Knob, Master Level
031B	2	2	2	4198154010	Knob, Rec Level
032B	2	2	2	4198154020	Knob, Rec Level
001F	1	1	1	4197160013	Bracket
005F	4	4	4	51280306B0	B.H. TAP. Screw B3 x 6
010F	1	1	1	4197160060	Bracket
011F	2	2	2	51100306A9	B.H.M. Screw B3 x 6
013F	1	1	1	62030049W0	Lug, GND
014F	1	1	1	51100306A9	B.H.M. Screw B3 x 6
016F	1	1	1	4197271020	Holder
021F	1	1	1	4197274012	Reflector
022F	1	1	1	4197107010	Sheet
023F	1	1	1	4197107010	Sheet

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
C001	1	1	1	DK18102010	Ceramic Cap. 1000pF
C002	1	1	1	DK18102010	Ceramic Cap. 1000pF
C003	1	1	1	DK18102010	Ceramic Cap. 1000pF
J001	1	1	1	YJ01001110	Jack, Mic
J002	1	1	1	YJ01001110	Jack, Mic
J003	1	1	1	YJ01001120	Jack, Headphone
J004	1	1	1	YJ08000130	Jack, Lamp Holder
J005	1	1	1	YJ08000130	Jack, Lamp Holder
R004	1	1	1	GD05082140	Resistor 8.2Ω J 0.25W
R005	1	1	1	GD05082140	Resistor 8.2Ω J 0.25W
V002	1	1	1	IN10080430	Lamp, 8V 300MA
V003	1	1	1	IN10080430	Lamp, 8V 300MA
M011	1	1	1	IM11080040	D.C. Meter
M021	1	1	1	IM11080040	D.C. Meter
					P600-LED CIRCUIT BOARD
P600	1	1	1	YK41971320	P.W. Board, Led
	1	1	1	ZZ41981320	P.W. Board Assembly
Q601	1	1	1	HI10004030	L.E.D., Dolby
Q602	1	1	1	HI10004030	L.E.D., Rec.
Q603	1	1	1	HI10004030	L.E.D., Peak
Q604	1	1	1	HI10004030	L.E.D., Peak
J601 ≀ J607	1	1	1	YP10001200	Plug

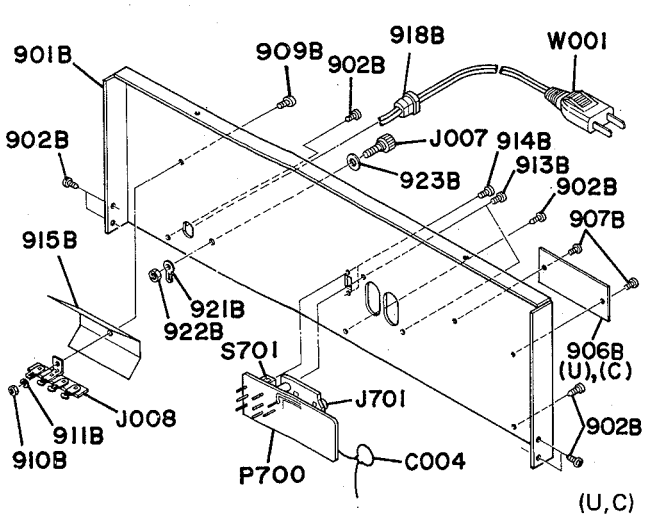
8.3 [P03-99] ASSOCIATED MECHANISM FOR CASSETTE TAPE OPERATION



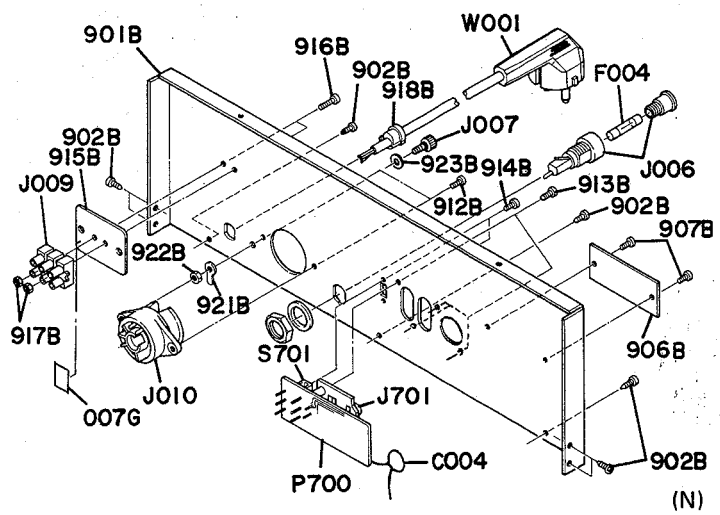
REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
B	1	1	1	4197063410	Escutcheon Assembly, Cassette
044B	1	1	1	4197257013	Lid
045B	1	1	1	4197063032	Escutcheon
C	1	1	1	4197271400	Holder Assembly, Cassette
120F	1	1	1	4197271012	Holder
121F	2	2	2	4197115052	Spring
122F	4	4	4	5106260580	P.H.M. Screw P2.6 x 5
030B	1	1	1	3448067060	Cap
051F	1	1	1	4197160502	Bracket
057F	1	1	1	4197262010	Pulley
058F	1	1	1	4197112040	Shaft
059F	1	1	1	4197115020	Spring
060F	1	1	1	72081604A0	String
061F	1	1	1	56382540G0	Eyelet
062F	1	1	1	62031650W0	Lug
063F	1	1	1	4197262020	Pulley
064F	1	1	1	4197258020	Hook
065F	1	1	1	5197115040	Spring
066F	1	1	1	51062605A0	P.H.M. Screw P2.6 x 5
067F	1	1	1	4197055010	Collar
070F	1	1	1	4197115030	Spring
071F	1	1	1	53110303A9	Hexagon Nut
076F	1	1	1	4197160512	Bracket
080F	2	2	2	64000200R0	RG Ring, E Type
081F	4	4	4	51060306A9	P.H.M. Screw P3 x 6
084F	1	1	1	4197053012	Cover
086F	2	2	2	51382606T0	P.H. TAP. Screw P2.6 x 6

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
087F	1	1	1	4197271030	Holder
088F	2	2	2	51100308A9	B.H.M. Screw B3 x 8
089F	4	4	4	51100306A9	B.H.M. Screw B3 x 6
090F	2	2	2	1382005030	Clamper
091F	1	1	1	4197104012	Retainer
093F	1	1	1	4197158010	Window
094F	2	2	2	4197112092	Shaft
095F	2	2	2	64000200R0	RG Ring, E Type
104F	2	2	2	59035402G9	Washer
101F	1	1	1	4197051502	Guide
111F	1	1	1	4197051510	Guide
115F	1	1	1	4197258030	Hook
127F	1	1	1	4197002500	Arm
130F	1	1	1	4367112150	Shaft
133F	1	1	1	4197002020	Arm
134F	1	1	1	4197164010	Adjuster
135F	1	1	1	51102604A0	B.H.M. Screw B2.6 x 4
136F	1	1	1	64000300R0	RG Ring, E Type
921F	2	2	2	51100306A9	B.H.M. Screw B3 x 6
922F	1	1	1	4198052010	Counter
923F	1	1	1	4198160020	Bracket
924F	1	1	1	4197264010	Belt
925F	2	2	2	51100306A9	B.H.M. Screw B3 x 6
V001	1	1	1	IN10080440	Lamp

8.4 [P04-99] REAR PANEL



(U,C)

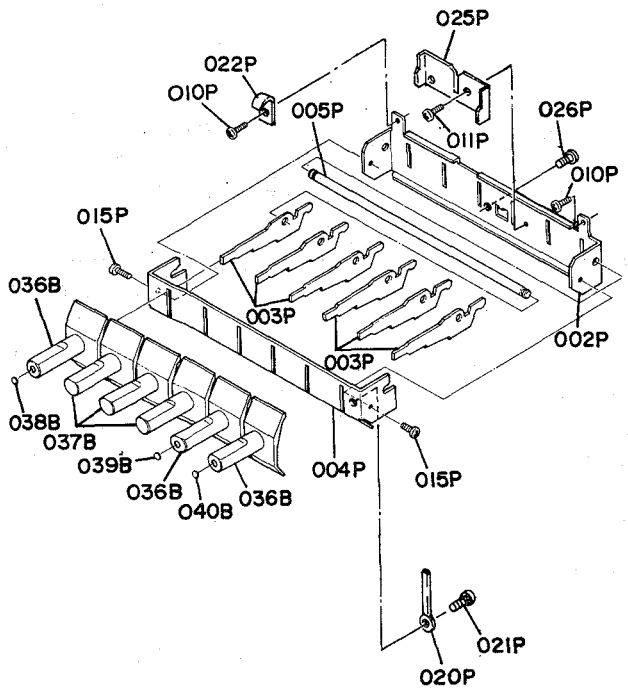


(N)

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
901B	1	1		4197160020	Bracket
901B			1	4197160010	Bracket
902B	7	7	7	51280306U0	B.H.TAP. Screw B3x6
906B	1			4197265012	Indicator
906B		1		4197265022	Indicator
906B			1	4197265030	Indicator
907B	2	2	2	51750306B9	OS Screw
909B	1	1		51100306S9	B.H.M. Screw B3x6
910B	1	1		53110303A9	Hexagon Nut
911B	1	1		54040302A0	Spring Washer
912B			2	51100306S9	B.H.M. Screw
913B	2	2	4	51280308U0	B.H.TAP. Screw B3x8
914B	2	2	2	51102604S0	B.H.M. Screw B2.6x4
915B	1	1		4114120010	Insulator
915B			1	4113120010	Insulator
916B			2	51100314S9	B.H.M. Screw B3x14
917B			2	53110303A9	Hexagon Nut
918B	1	1		1455259030	Bushing
918B			1	1455259040	Bushing
921B	1	1	1	62040029W0	Lug
922B	1	1	1	53110403A9	Hexagon Nut
923B	1	1	1	54020401E0	Flat Washer, P
007G			1	2882861020	Label
J006			1	YJ08000220	Jack
J007	1	1	1	YL03010210	Terminal, Grand
J008	1	1		YL01040160	Terminal
J009			1	YL09030010	Terminal
J010			1	BY03110010	Plug
W001	1	1		YC02400220	AC Power Cord
W001			1	YC01900030	AC Power Cord
F004			1	FS10012800	Fuse 125mAT
C004	1	1	1	DK18102010	Ceramic Cap. 1000pF

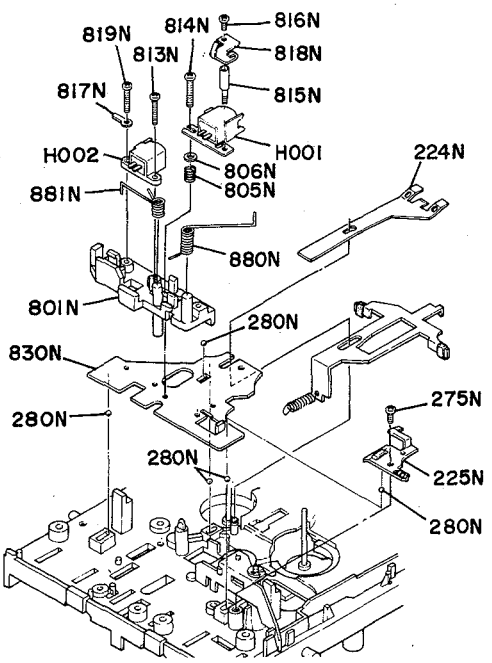
REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
					P700-REAR CIRCUIT BOARD
P700	1	1	1	YF41980020	P.W. Board Terminal
	1	1		ZZ41980020	P.W.Board Assembly
			1	ZZ41988020	P.W.Board Assembly
R711	1	1	1	GD05224140	Resistor, 220KΩ ±5% 1/4W
R712			1	GD05473140	Resistor, 47KΩ ±5% 1/4W
R721	1	1	1	GD05224140	Resistor, 220KΩ ±5% 1/4W
R722			1	GD05473140	Resistor, 47KΩ ±5% 1/4W
J701	1	1		YT02040150	Terminal
J701			1	BY01050060	Jack
J702	1	1	1	YP10001200	Plug
J703	1	1	1	YP10001200	Plug
J711 ≀ J716	1	1	1	YP10001200	Plug
J721 ≀ J726	1	1	1	YP10001200	Plug
S701	1	1	1	SS02020420	Slide Switch

8.5 [P05-00] BUTTONS FOR TAPE MECHANISM OPERATION



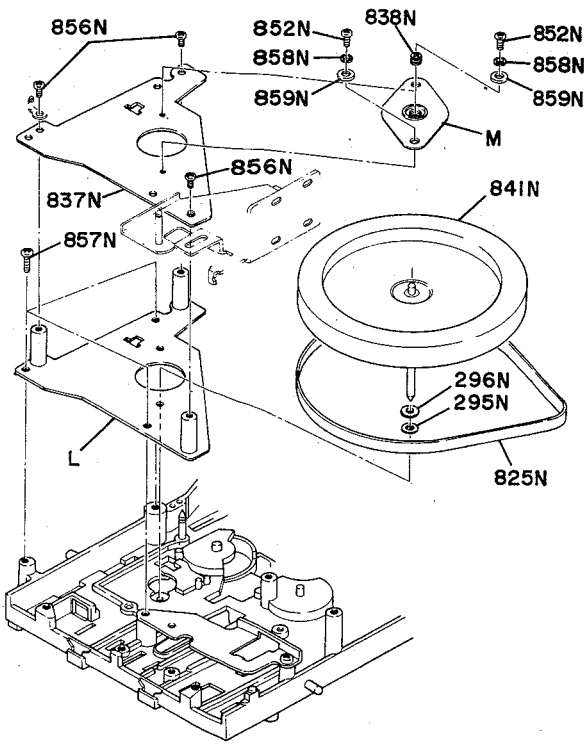
REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
O	1	1	1	4197270400	Button Assembly, Rec
003P	1	1	1	4380354070	Lever
036B	1	1	1	4197270012	Button
038B	1	1	1	3411108033	Seal
P	1	1	1	4197270410	Button Assembly, Stop
003P	1	1	1	4380354070	Lever
036B	1	1	1	4197270012	Button
039B	1	1	1	3411108023	Seal
Q	1	1	1	4197270420	Button Assembly, Pause
003P	1	1	1	4380354070	Lever
036B	1	1	1	4197270012	Button
040B	1	1	1	3411108013	Seal
S	3	3	3	4197270430	Button Assembly, Play, FF, Rew
003P	3	3	3	4380354070	Lever
037B	3	3	3	4197270022	Button
002P	1	1	1	4380160013	Bracket
004P	1	1	1	4380051013	Guide
005P	1	1	1	4380112030	Shaft
010P	2	2	2	51300208B0	P.H. TAP. Screw P2 x 8
011P	1	1	1	51300310B0	P.H. TAP. Screw P3 x 10
015P	2	2	2	51062604A0	P.H.M. Screw P2.6 x 5
020P	1	1	1	1210005010	Clamper
021P	1	1	1	51062603A0	P.H.M. Screw P2.6 x 3
022P	1	1	1	1126005010	Clamper
025P	1	1	1	4383104040	Retainer
026P	1	1	1	51062605A0	P.H.M. Screw P2.6 x 5

8.6 [P06-99] HEAD CHASSIS



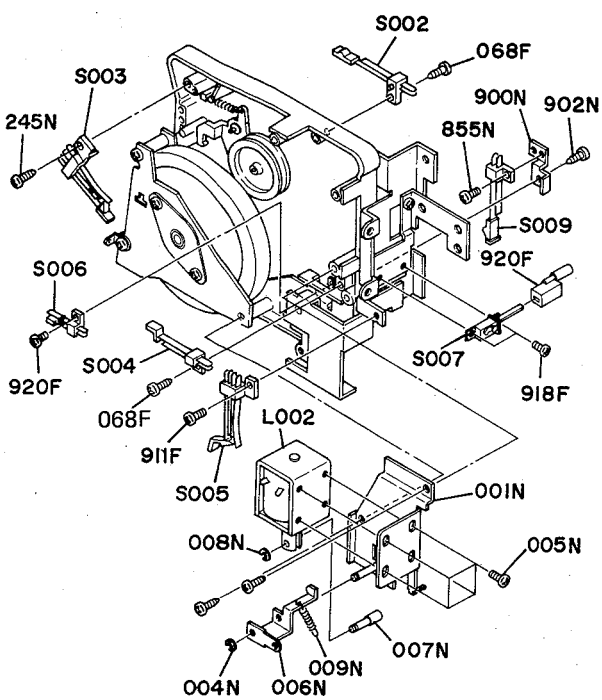
REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
224N	1	1	1	4380115010	Spring
225N	1	1	1	4367115172	Spring
275N	1	1	1	51300308B0	P.H. TAP. Screw P3 x 8
280N	5	5	5	61020010T0	Ball
801N	1	1	1	4367160015	Bracket
805N	1	1	1	4380115090	Spring
806N	1	1	1	3444118070	Spacer
813N	1	1	1	51100210A0	B.H.M. Screw B2 x 10
814N	1	1	1	51100210A0	B.H.M. Screw B2 x 10
815N	1	1	1	4380101030	Support
816N	1	1	1	51100203A0	B.H.M. Screw B2 x 3
817N	1	1	1	62021030W0	Lug
818N	1	1	1	4380005010	Clamper
819N	1	1	1	51100212A0	B.H.M. Screw B2 x 12
830N	1	1	1	4367105022	Chassis
880N	1	1	1	4367115042	Spring
881N	1	1	1	4367115052	Spring
H001	1	1	1	LH42851030	Rec./Play Head
H002	1	1	1	LH31000410	Erase Head

8.7 [P07-99] FLYWHEEL



REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
L	1	1	1	4383104400	Retainer Assembly
M	1	1	1	4383104410	Retainer Assembly, Flywheel Retainer
295N	1	1	1	59264702G9	Washer
296N	1	1	1	59260702G9	Washer
825N	1	1	1	4383264010	Belt
837N	1	1	1	4383104010	Retainer
838N	1	1	1	3483164020	Aduster
841N	1	1	1	4383273502	Flywheel
852N	2	2	2	51060306A9	P.H.M. Screw P3x6
856N	3	3	3	51060306A9	P.H.M. Screw P3x6
857N	3	3	3	51300308B0	P.H.TAP. Screw P3x8
858N	2	2	2	54040302A0	Spring Washer
859N	2	2	2	54020301A0	Flat Washer, P

8.8 [P08-99] SWITCH LOCATION FOR THE TAPE MECHANISM OPERATION

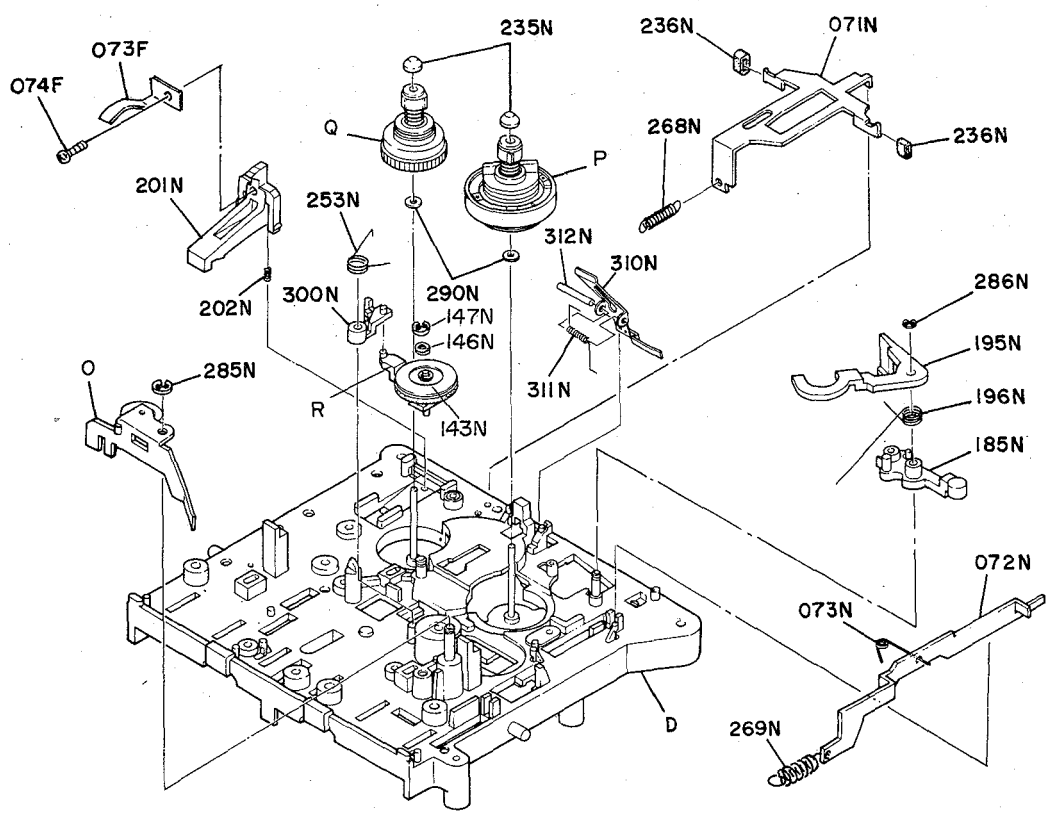


REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
001N	1	1	1	4198160502	Bracket
004N	1	1	1	64002500R0	RG Ring, E Type
005N	4	4	4	51100305A9	B.H.M. Screw B3x5
006N	1	1	1	4198002010	Arm
007N	1	1	1	4198254020	Pin
008N	1	1	1	64001500R0	RG Ring, E Type
009N	1	1	1	4198115010	Spring
068F	2	2	2	51380206P0	P.H.TAP. Screw P2x6
245N	1	1	1	51382606P0	P.H.TAP. Screw P2.6x6
855N	1	1	1	51300308B0	P.H.TAP. Screw P3x8
900N	1	1	1	4383160040	Bracket
902N	1	1	1	51060205A0	P.H.M. Screw P2x5
911F	1	1	1	51060205A0	P.H.M. Screw P2x5
918F	2	2	2	51100204A0	B.H.M. Screw B2x4
920F	1	1	1	3448270050	Button, Memory Switch
L002	1	1	1	ME10530040	Solenoid Coil
S002	1	1	1	SM01010680	Mini Switch, Motor
S003	1	1	1	SM02010120	Mini Switch, Pause Muting
S004	1	1	1	SM01010660	Mini Switch, Play Muting
S005	1	1	1	SM02010080	Mini Switch, Rec. Muting
S006	1	1	1	SM01010390	Mini Switch, Rew
S007	1	1	1	SP01020020	Push Switch, Memory Rew
S009	1	1	1	SM01010580	Mini Switch, Play Timing

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
E	1	1	1	4380354400	Lever Assembly, Rew
F	1	1	1	4380354410	Lever Assembly, Play
G	1	1	1	4380354420	Lever Assembly, F.F.
H	1	1	1	4380354430	Lever Assembly, stop
I	1	1	1	4380354440	Lever Assembly, Pause
J	1	1	1	4380354450	Lever Assembly, Rec
K	1	1	1	4383051400	Guide Assembly,
N	1	1	1	4383001400	Idler Assembly,

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
054N	1	1	1	4367115210	Spring
055N	1	1	1	4367112132	Shaft
056N	1	1	1	4367054030	Cam, Pause Lock
057N	1	1	1	4367115140	Spring
058N	1	1	1	59020805G9	Washer
061N	1	1	1	4367354070	Lever, Eject
062N	1	1	1	4380115082	Spring
063N	1	1	1	64001500R0	RG Ring, E Type
070N	1	1	1	4367354062	Lever, Head Chassis
S	1	1	1	4367354400	Lever Assembly, FF
105N	1	1	1	4383002020	Arm, FF Idler Lever Lock
T	1	1	1	4367002420	Arm Assembly, T.M.S. Idler
226N	1	1	1	4367112180	Shaft
232N	2	2	2	4367055020	Collar, Lock Cam
233N	2	2	2	51300312B0	P.H.TAP. Screw P3x12
234N	4	4	4	64000300R0	RG Ring, E Type
252N	1	1	1	4380115052	Spring
261N	1	1	1	4367115090	Spring
262N	1	1	1	4367115120	Spring
263N	1	1	1	4367115252	Spring
264N	1	1	1	4367115263	Spring
265N	1	1	1	4367115270	Spring
266N	2	2	2	4367115280	Spring
267N	1	1	1	4380115070	Spring
271N	1	1	1	4367056020	Buffer
272N	1	1	1	4367056030	Buffer
273N	1	1	1	4367056020	Buffer
286N	1	1	1	64001500R0	RG Ring, E Type
305N	1	1	1	4367058012	Gear
803N	1	1	1	4367054030	Cam, Stop/Eject
804N	1	1	1	4383054020	Cam, Lock
810N	1	1	1	4380262012	Pulley
811N	1	1	1	51610205A0	Set Screw, F.P.
820N	1	1	1	4383160020	Bracket
821N	1	1	1	4380160010	Bracket, DC Motor
823N	3	3	3	51300308B0	P.H.TAP. Screw P3x8
826N	1	1	1	4380264022	Belt
845N	3	3	3	4383259010	Bushing
846N	3	3	3	4367112150	Shaft
855N	2	2	2	51300308B0	P.H.TAP Screw P3x8
M001	1	1	1	MM01200030	D.C. Motor

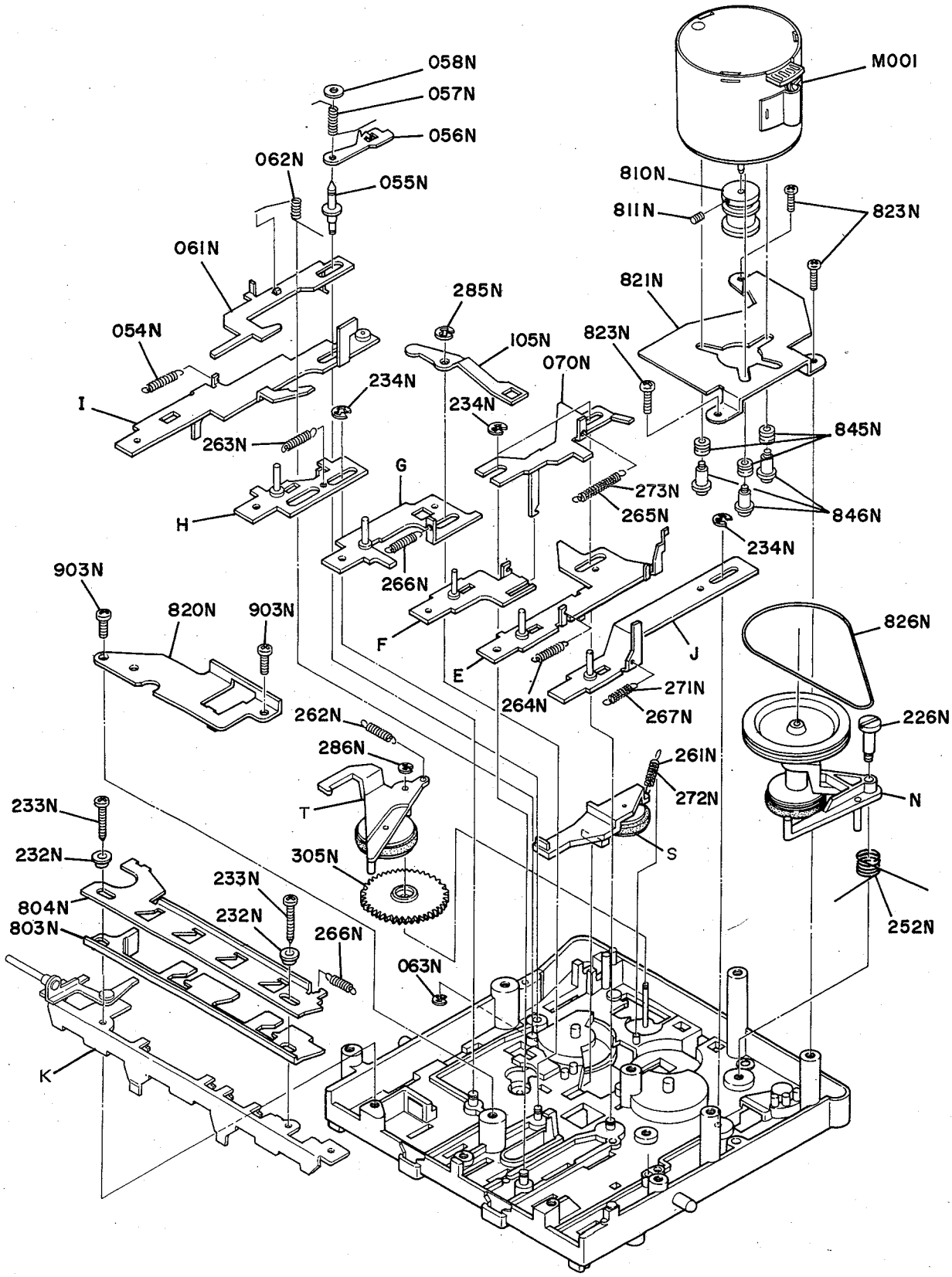
8.9 [P09-99] PARTS ASSEMBLED ON THE TOP CHASSIS



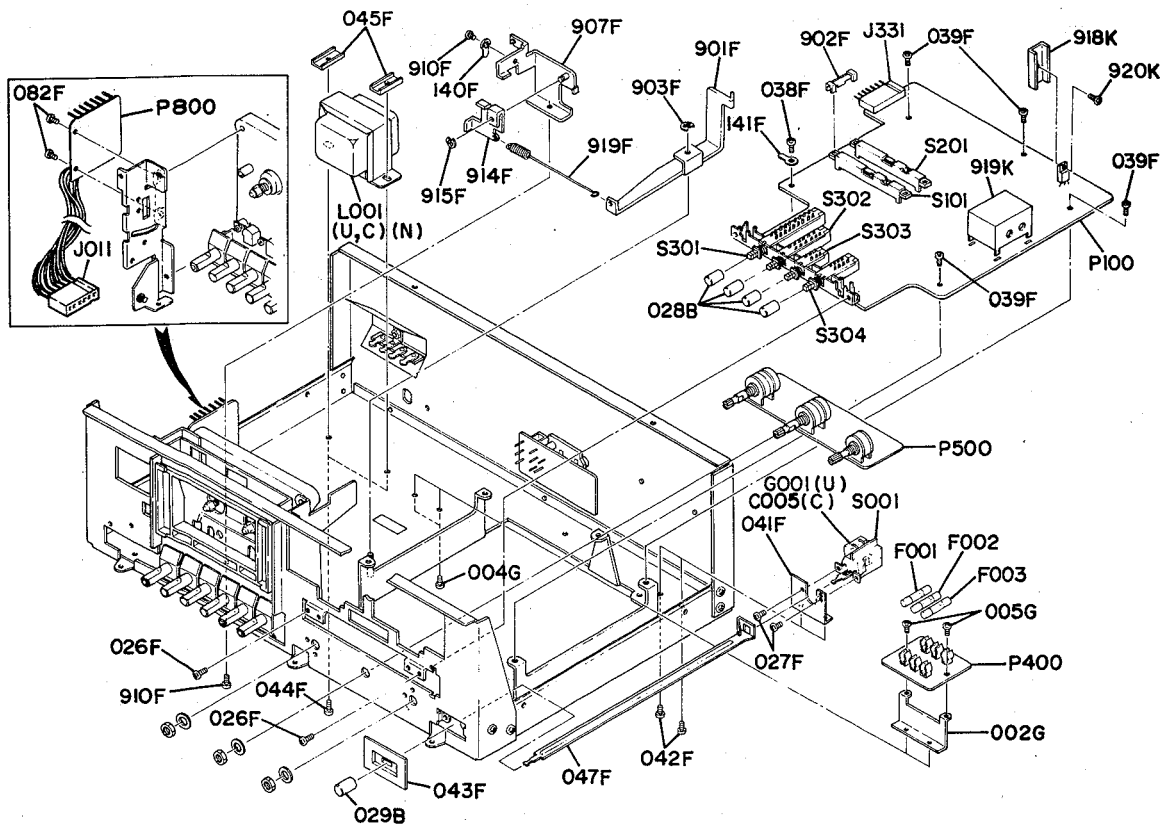
REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
D	1	1	1	4380105400	Chassis Assembly
071N	1	1	1	4367354092	Lever
072N	1	1	1	4367354122	Lever
073N	1	1	1	4380115110	Spring
O	1	1	1	4367002400	Arm, Pinch Roller Assembly
P	1	1	1	4367004400	Table Assembly, Take up
Q	1	1	1	4367004410	Table Assembly, Supply
R	1	1	1	4367002410	Arm Assembly
143N	1	1	1	4367001512	Idler
146N	1	1	1	59163202G9	Washer
147N	1	1	1	64001200R0	RG Ring, E Type
185N	1	1	1	4367354410	Lever Assembly
195N	1	1	1	4367002053	Arm
196N	1	1	1	4367115130	Spring
201N	1	1	1	4367354083	Lever
202N	1	1	1	4380115060	Spring
235N	2	2	2	4367067010	Cap
236N	2	2	2	4367263010	Brake
245N	1	1	1	51380206P0	P.H. TAP. Screw P2 x 6
253N	1	1	1	4367115100	Spring
268N	1	1	1	4367115210	Spring
269N	1	1	1	4380115100	Spring
285N	1	1	1	64002500R0	RG Ring, E Type
286N	1	1	1	64001500R0	RG Ring, E Type

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
290N	2	2	2	59020402G9	Washer
300N	1	1	1	4367354110	Lever
310N	1	1	1	4383115010	Spring
311N	1	1	1	4380115032	Spring
312N	1	1	1	4380112010	Shaft
073F	1	1	1	4197115060	Spring
074F	1	1	1	51382606U0	P.H. TAP. Screw P2.6 x 6

8.10 [P10-99] PARTS ASSEMBLED ON THE REVERSE CHASSIS



8.11 [M01-99] P.W. BOARDS AND GENERAL PARTS



REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION	
026F	2	2	2	51100306A9	B.H.M. Screw	B3 x 6
027F	2	2	2	51100306A9	B.H.M. Screw	B3 x 6
028B	4	4	4	3448154060	Knob	
029B	1	1	1	2963154022	Knob	
038F	1	1	1	51100306A9	B.H.M. Screw	B3 x 6
039F	4	4	4	51100306A9	B.H.M. Screw	B3 x 6
041F	1	1	1	4198160010	Bracket	
042F	2	2	2	51100306A9	B.H.M. Screw	B3 x 6
043F	1	1	1	4198259012	Bushing	
044F	2	2	2	51100408A9	B.H.M. Screw	B4 x 8
045F	2	2	2	2922005010	Clamper	
047F	1	1	1	4198121012	Link	
082F	2	2	2	51100306A9	B.H.M. Screw	B3 x 6
140F	1	1	1	62031650W0	Lug	
141F	1	1	1	62031650W0	Lug	
901F	1	1	1	4197002012	Arm	
902F	1	1	1	4197354030	Lever	
903F	1	1	1	64000300R0	RG Ring, E Type	
907F	1	1	1	4197104502	Retainer	

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION	
910F	2	2	2	51100306A9	B.H.M. Screw	B3 x 6
911F	1	1	1	51060205A0	P.H.M. Screw	P2.6 x 5
914F	1	1	1	4197354010	Lever	
915F	1	1	1	64000300R0	RG Ring, E Type	
918K	1	1	1	2915267020	Heatsink	
919K	1	1	1	3322109022	Shield	
919F	1	1	1	4197115010	Spring	
920K	1	1	1	51100306S9	B.H.M. Screw	B3 x 6
002G			1	3889160110	Bracket	
004G			2	51100306A9	B.H.M. Screw	B3 x 6
005G			2	51100306A9	B.H.M. Screw	B3 x 6
007G			1	2882861020	Label	
F001			1	FS10050800	Fuse 500mAT	
F002			1	FS10080800	Fuse 800mAT	
F003			1	FS10140800	Fuse 1.4AT	
L001	1	1		TS15401190	Power Transf.	
L001			1	TS15401200	Power Transf.	
C005		1		DF17473590	Film Cap., Spark Killer Csa	
G001	1			BF10400040	Cap. Comp., Spark Killer	
S001	1	1		SP01010210	Push Switch, Power	
S001			1	SP02010300	Push Switch, Power	
J011	1	1	1	YJ06001060	Jack, Tape Mechanism Connector	

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REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
					P100-PRE-AMP. CIRCUIT BOARD
P100	1	1	1	YK41971310	P.W. Board, Pre-Amp.
	1	1	1	ZZ41981310	P.W. Board Assembly
					P100-CAPACITORS
C101	1	1	1	EE10601640	Elect, 10μF 16V
C102	1	1	1	DK16471010	Ceramic, 470pF ±10%
C103	1	1	1	EA47602590	Elect, 47μF 25V
C104	1	1	1	EA10701090	Elect, 100μF 10V
C105	1	1	1	DD16101010	Ceramic, 100pF ±10%
C106	1	1	1	DF15153010	Film, 0.015μF ±5%
C107	1	1	1	DD16500010	Ceramic, 50pF ±10%
C108	1	1	1	EA10601690	Elect, 10μF 16V
C109	1	1	1	EA22505090	Elect, 2.2μF 50V
C110	1	1	1	EE22405040	Elect, 0.22μF 50V
C111	1	1	1	DD16101010	Ceramic, 100pF ±10%
C112	1	1	1	DD16500010	Ceramic, 50pF ±10%
C113	1	1	1	EA47601090	Elect, 47μF 10V
C114	1	1	1	DD15820010	Ceramic, 82pF ±5%
C115	1	1	1	DF15332010	Film, 3300pF ±5%
C116	1	1	1	DF15222010	Film, 2200pF ±5%
C117	1	1	1	DF15392010	Film, 3900pF ±5%
C118	1	1	1	EA22505090	Elect, 2.2μF 50V
C119	1	1	1	DF15104010	Film, 0.1μF ±5%
C120	1	1	1	EA10601690	Elect, 10μF 16V
C121	1	1	1	EM10402510	Elect, 0.1μF 25V
C122	1	1	1	EM33402510	Elect, 0.33μF 25V
C123	1	1	1	EA47601090	Elect, 47μF 10V
C124	1	1	1	DF15472010	Film, 4700pF ±5%
C125	1	1	1	DF15153010	Film, 0.015μF ±5%
C126	1	1	1	DF15153010	Film, 0.015μF ±5%
C127	1	1	1	EM33402510	Elect, 0.33μF 25V
C128	1	1	1	EA10601690	Elect, 10μF 16V
C129	1	1	1	EA10601690	Elect, 10μF 16V
C130	1	1	1	EA22505090	Elect, 2.2μF 50V
C131	1	1	1	EA47405090	Elect, 0.47μF 50V
C132	1	1	1	DK16501010	Ceramic, 500pF ±10%
C133	1	1	1	EA47602590	Elect, 47μF 25V
C134	1	1	1	EA47502590	Elect, 4.7μF 25V
C135	1	1	1	DF15224010	Film, 0.22μF ±5%
C136	1	1	1	EA47502590	Elect, 4.7μF 25V
C137	1	1	1	DF15223010	Film, 0.022μF ±5%
C138	1	1	1	DF15183010	Film, 0.018μF 50V
C139	1	1	1	DF15473010	Film, 0.047μF ±5%
C140	1	1	1	EA47502590	Elect, 4.7μF 25V
C141	1	1	1	DF15152010	Film, 1500pF ±5%
C142	1	1	1	DF65151010	Film, 1500pF ±5%
C143	1	1	1	DF65271510	Film, 270pF ±5%
C144	1	1	1	EA33502590	Elect, 3.3μF 25V
C145	1	1	1	EA10602590	Elect, 10μF 25V
C201	1	1	1	EE10601640	Elect, 10μF 16V
C202	1	1	1	DK16471010	Ceramic, 470pF ±10%
C203	1	1	1	EA47602590	Elect, 47μF 25V
C204	1	1	1	EA10701090	Elect, 100μF 10V
C205	1	1	1	DD16101010	Ceramic, 100pF ±10%

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
C206	1	1	1	DF15153010	Film, 0.015μF ±5%
C207	1	1	1	DD16500010	Ceramic, 50pF ±10%
C208	1	1	1	EA10601690	Elect, 10μF 16V
C209	1	1	1	EA22505090	Elect, 2.2μF 50V
C210	1	1	1	EE22405040	Elect, 0.22μF 50V
C211	1	1	1	DD16101010	Ceramic, 100pF ±10%
C212	1	1	1	DD16500010	Ceramic, 50pF ±10%
C213	1	1	1	EA47601090	Elect, 47μF 10V
C214	1	1	1	DD15820010	Ceramic, 82pF ±5%
C215	1	1	1	DF15332010	Film, 3300pF ±5%
C216	1	1	1	DF15222010	Film, 2200pF ±5%
C217	1	1	1	DF15392010	Film, 3900pF ±5%
C218	1	1	1	EA22505090	Elect, 2.2μF 50V
C219	1	1	1	DF15104010	Film, 0.1μF ±5%
C220	1	1	1	EA10601690	Elect, 10μF 16V
C221	1	1	1	EM10402510	Elect, 0.1μF 25V
C222	1	1	1	EM33402510	Elect, 0.33μF 25V
C223	1	1	1	EA47601090	Elect, 47μF 10V
C224	1	1	1	DF15472010	Film, 4700pF ±5%
C225	1	1	1	DF15153010	Film, 0.015μF ±5%
C226	1	1	1	DF15153010	Film, 0.015μF ±5%
C227	1	1	1	EM33402510	Elect, 0.33μF 25V
C228	1	1	1	EA10601690	Elect, 10μF 16V
C229	1	1	1	EA10601690	Elect, 10μF 16V
C230	1	1	1	EA22505090	Elect, 2.2μF 50V
C231	1	1	1	EA47405090	Elect, 0.47μF 50V
C232	1	1	1	DK16501010	Ceramic, 500pF ±10%
C233	1	1	1	EA47602590	Elect, 47μF 25V
C234	1	1	1	EA47502590	Elect, 4.7μF 25V
C235	1	1	1	DF15224010	Film, 0.22μF ±5%
C236	1	1	1	EA47502590	Elect, 4.7μF 25V
C237	1	1	1	DF15223010	Film, 0.022μF ±5%
C238	1	1	1	DF15183010	Film, 0.018μF 50V
C239	1	1	1	DF15473010	Film, 0.047μF ±5%
C240	1	1	1	EA47502590	Elect, 4.7μF 25V
C241	1	1	1	DF15152010	Film, 1500pF ±5%
C242	1	1	1	DF65151010	Film, 150pF ±5%
C243	1	1	1	DF65271510	Film, 270pF ±5%
C244	1	1	1	EA33502590	Elect, 3.3μF 25V
C245	1	1	1	EA10602590	Elect, 10μF 25V
C301	1	1	1	DF16223510	Film, 0.022μF ±10% 100V
C302	1	1	1	EE10505040	Elect, 1μF 50V
C303	1	1	1	DF16102510	Film, 1000pF ±10%
C304	1	1	1	DF16102050	Film, 1000pF ±10%
C305	1	1	1	DF16102510	Film, 1000pF ±10%
C306	1	1	1	EA22701090	Elect, 220μF 10V
C307	1	1	1	DF17103500	Film, 0.01μF 200V
C308	1	1	1	DF17103500	Film, 0.01μF 200V
C309	1	1	1	DF17103500	Film, 0.01μF 200V
C310	1	1	1	DF17103500	Film, 0.01μF 200V
C311	1	1	1	EA47703590	Elect, 470μF 35V
C312	1	1	1	EA47703590	Elect, 470μF 35V
C313	1	1	1	EA47702590	Elect, 470μF 25V

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
C314	1	1	1	EA10702590	Elect, 100μF 25V
C315	1	1	1	DK17103010	Ceramic, 0.01μF 50V
C316	1	1	1	DK17103010	Ceramic, 0.01μF 50V
C317	1	1	1	DK17103010	Ceramic, 0.01μF 50V
C318	1	1	1	DK17103010	Ceramic, 0.01μF 50V
C319	1	1	1	EA22802590	Elect, 2200μF 25V
C320	1	1	1	DK18403010	Ceramic, 0.04μF 25V
C321	1	1	1	EA10801090	Elect, 1000μF 10V
C322	1	1	1	EA10601690	Elect, 10μF 16V
C323	1	1	1	EA10701690	Elect, 100μF 16V
					P100-RESISTORS
					(All resistors are ±5% and 1/4W)
R101	1	1	1	GD05561140	560Ω
R102	1	1	1	GD05822140	8.2KΩ
R103	1	1	1	GD05100140	10Ω
R104	1	1	1	GD05104140	100KΩ
R105	1	1	1	GD05394140	390KΩ
R106	1	1	1	GD05331140	330Ω
R107	1	1	1	GD05154140	150KΩ
R108	1	1	1	GD05332140	3.3KΩ
R109	1	1	1	GD05512140	5.1KΩ
R110	1	1	1	RA03020030	Trimming, 3KΩ Play EQ
R111	1	1	1	GD05183140	18KΩ
R112	1	1	1	GD05562140	5.6KΩ
R113	1	1	1	GD05561140	560Ω
R114	1	1	1	RA05030090	Trimming, 53KΩ Play Level
R115	1	1	1	GD05102140	1KΩ
R116	1	1	1	GD05124140	120KΩ
R117	1	1	1	GD05331140	330Ω
R118	1	1	1	GD05123140	12KΩ
R119	1	1	1	GD05154140	150KΩ
R120	1	1	1	GD05332140	3.3KΩ
R121	1	1	1	GD05241140	240Ω
R122	1	1	1	GD05151140	150Ω
R123	1	1	1	GD05332140	3.3KΩ
R124	1	1	1	GD05473140	47KΩ
R125	1	1	1	GD05123140	12KΩ
R126	1	1	1	GD05274140	270KΩ
R127	1	1	1	GD05274140	270KΩ
R128	1	1	1	GD05181140	180Ω
R129	1	1	1	GD05104140	100KΩ
R130	1	1	1	GD05122140	1.2KΩ
R131	1	1	1	GD05105140	1MΩ
R132	1	1	1	GD05473140	47KΩ
R133	1	1	1	GD05392140	3.9KΩ
R134	1	1	1	GD05821140	820Ω
R135	1	1	1	GD05152140	1.5KΩ
R136	1	1	1	GD05222140	2.2KΩ
R137	1	1	1	GD05333140	33KΩ
R138	1	1	1	GD05362140	3.6KΩ
R140	1	1	1	RA02030060	Trimming, 20KΩ Rec. Level

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
R141	1	1	1	GD05104140	100KΩ
R142	1	1	1	GJ05681010	680Ω 1W
R143	1	1	1	RA02020180	Trimming, 2KΩ Meter Adj.
R144	1	1	1	GD05151140	150Ω
R145	1	1	1	GD05103140	10KΩ
R146	1	1	1	GD05103140	10KΩ
R147	1	1	1	GD05274140	270KΩ
R148	1	1	1	GD05473140	47KΩ
R149	1	1	1	GD05472140	4.7KΩ
R150	1	1	1	GD05102140	1KΩ
R151	1	1	1	GD05220140	22Ω
R152	1	1	1	GD05680140	68Ω
R153	1	1	1	GD05182140	1.8KΩ
R154	1	1	1	GD05103140	10KΩ
R155	1	1	1	GD05561140	560Ω
R156	1	1	1	RA01540010	Trimming, 150KΩ Bias Adj.
R157	1	1	1	GD05562140	5.6KΩ
R158	1	1	1	GF05182120	1.8KΩ 1/2W
R159	1	1	1	GD05561140	560Ω
R201	1	1	1	GD05561140	560Ω
R202	1	1	1	GD05822140	8.2KΩ
R203	1	1	1	GD05100140	10Ω
R204	1	1	1	GD05104140	100KΩ
R205	1	1	1	GD05394140	390KΩ
R206	1	1	1	GD05331140	330Ω
R207	1	1	1	GD05154140	150KΩ
R208	1	1	1	GD05332140	3.3KΩ
R209	1	1	1	GD05512140	5.1KΩ
R210	1	1	1	RA03020030	Trimming, 3KΩ Play EQ
R211	1	1	1	GD05183140	18KΩ
R212	1	1	1	GD05562140	5.6KΩ
R213	1	1	1	GF05561140	560Ω
R214	1	1	1	RA05030090	Trimming, 53KΩ Play Level
R215	1	1	1	GD05102140	1KΩ
R216	1	1	1	GD05124140	120KΩ
R217	1	1	1	GD05331140	330Ω
R218	1	1	1	GD05123140	12KΩ
R219	1	1	1	GD05154140	150KΩ
R220	1	1	1	GD05332140	3.3KΩ
R221	1	1	1	GD05241140	240Ω
R222	1	1	1	GD05151140	150Ω
R223	1	1	1	GD05332140	3.3KΩ
R224	1	1	1	GD05473140	47KΩ
R225	1	1	1	GD05123140	12KΩ
R226	1	1	1	GD05274140	270KΩ
R227	1	1	1	GD05274140	270KΩ
R228	1	1	1	GD05181140	180Ω
R229	1	1	1	GD05104140	100KΩ
R230	1	1	1	GD05122140	1.2KΩ

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
R231	1	1	1	GD05105140	1MΩ
R232	1	1	1	GD05473140	47KΩ
R233	1	1	1	GD05392140	3.9KΩ
R234	1	1	1	GD05821140	820Ω
R235	1	1	1	GD05152140	1.5KΩ
R236	1	1	1	GD05222140	2.2KΩ
R237	1	1	1	GD05333140	33KΩ
R238	1	1	1	GD05362140	3.6KΩ
R240	1	1	1	RA02030060	Trimming, 20KΩ REC Level
R241	1	1	1	GD05104140	100KΩ
R242	1	1	1	GJ05681010	680Ω 1W
R243	1	1	1	RA02020180	Trimming, 2KΩ Meter Adj.
R244	1	1	1	GD05151140	150Ω
R245	1	1	1	GD05103140	10KΩ
R246	1	1	1	GD05103140	10KΩ
R247	1	1	1	GD05274140	270KΩ
R248	1	1	1	GD05473140	47KΩ
R249	1	1	1	GD05472140	4.7KΩ
R250	1	1	1	GD05102140	1KΩ
R251	1	1	1	GD05220140	22Ω
R252	1	1	1	GD05680140	68Ω
R253	1	1	1	GD05182140	1.8KΩ
R254	1	1	1	GD05103140	10KΩ
R255	1	1	1	GD05561140	560Ω
R256	1	1	1	RA01540010	Trimming, 150KΩ Bias Adj.
R257	1	1	1	GD05562140	5.6KΩ
R258	1	1	1	GF05182120	1.8KΩ 1/2W
R259	1	1	1	GD05561140	560Ω
R301	1	1	1	GD05390140	39Ω
R302	1	1	1	GD05390140	39Ω
R303	1	1	1	GD05154140	150KΩ
R304	1	1	1	GD05154140	150KΩ
R305	1	1	1	GJ05271020	270Ω 2W
R306	1	1	1	GJ05151020	150Ω 2W
R307	1	1	1	GD05134140	130KΩ
R308	1	1	1	GD05101140	100Ω
R309	1	1	1	GJ05102010	1KΩ 1W
R310	1	1	1	GD05471140	470Ω
R311	1	1	1	GJ05100010	10Ω 1W
R312	1	1	1	GJ05821010	820Ω 1W
R313	1	1	1	GD05511140	510Ω
R314	1	1	1	GD05511140	510Ω
R315	1	1	1	RA02030060	Trimming, 20KΩ Dolby Adj.
R317	1	1	1	GF05331140	330Ω

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
					P100-SEMICONDUCTORS
Q101	1	1	1	HC10012060	IC. UPC1024H
Q102	1	1	1	HT317400S0	Transistor, 2SC1740LN(S)
Q103	1	1	1	HT317400S0	Transistor, 2SC1740LN(S)
Q104	1	1	1	HT309451P0	Transistor, 2SC945(P)
Q105	1	1	1	HT309451Q0	Transistor, 2SC945(Q)
Q106	1	1	1	HT309451Q0	Transistor, 2SC945(Q)
Q107	1	1	1	HT402272A0	Transistor, 2SD227(Q or V)
Q108	1	1	1	HD20011050	Diode, 1S1555
Q109	1	1	1	HD10003020	Diode, 2OA90
Q110	1	1	1	HD20011050	Diode, 1S1555
Q111	1	1	1	HD20011050	Diode, 1S1555
Q112	1	1	1	HD10003020	Doide, 2OA90
Q113	1	1	1	HD10003020	Diode, 2OA90
Q114	1	1	1	HD10003020	Diode, 2OA90
Q115	1	1	1	HT309451P0	Transistor, 2SC945(P)
Q201	1	1	1	HC10012060	IC, UPC1024H
Q202	1	1	1	HT317400S0	Transistor, 2SC1740LN(S)
Q203	1	1	1	HT317400S0	Transistor, 2SC1740LN(S)
Q204	1	1	1	HT309451P0	Transistor, 2SC945(P)
Q205	1	1	1	HT309451Q0	Transistor, 2SC945(Q)
Q206	1	1	1	HT309451Q0	Transistor, 2SC945(Q)
Q207	1	1	1	HT402272A0	Transistor, 2SD227(Q or V)
Q208	1	1	1	HD20011050	Diode, 1S1555
Q209	1	1	1	HD10003020	Diode, 2OA90
Q210	1	1	1	HD20011050	Diode, 1S1555
Q211	1	1	1	HD20011050	Diode, 1S1555
Q212	1	1	1	HD10003020	Diode, 2OA90
Q213	1	1	1	HD10003020	Diode, 2OA90
Q214	1	1	1	HD10003020	Diode, 2OA90
Q215	1	1	1	HT309451P0	Transistor, 2SC945(P)
Q301	1	1	1	HC10026010	IC
Q302	1	1	1	HT313181R0	Transistor, 2SC1318(R)
Q303	1	1	1	HT313181R0	Transistor, 2SC1318(R)
Q304	1	1	1	HT309451Q0	Transistor, 2SC945(Q)
Q305	1	1	1	HD20011050	Diode, 1S1555
Q306	1	1	1	HD30033090	Zener, WZ052
Q307	1	1	1	HD20017100	Diode, 10DC1R
Q308	1	1	1	HD20016100	Diode, 10DC1N
Q309	1	1	1	HD30048090	Zener
Q310	1	1	1	HT403131E0	Transistor, 2SD313(E)
Q311	1	1	1	HD20017100	Diode, 10DC1R
Q312	1	1	1	HD20016100	Diode, 10DC1N

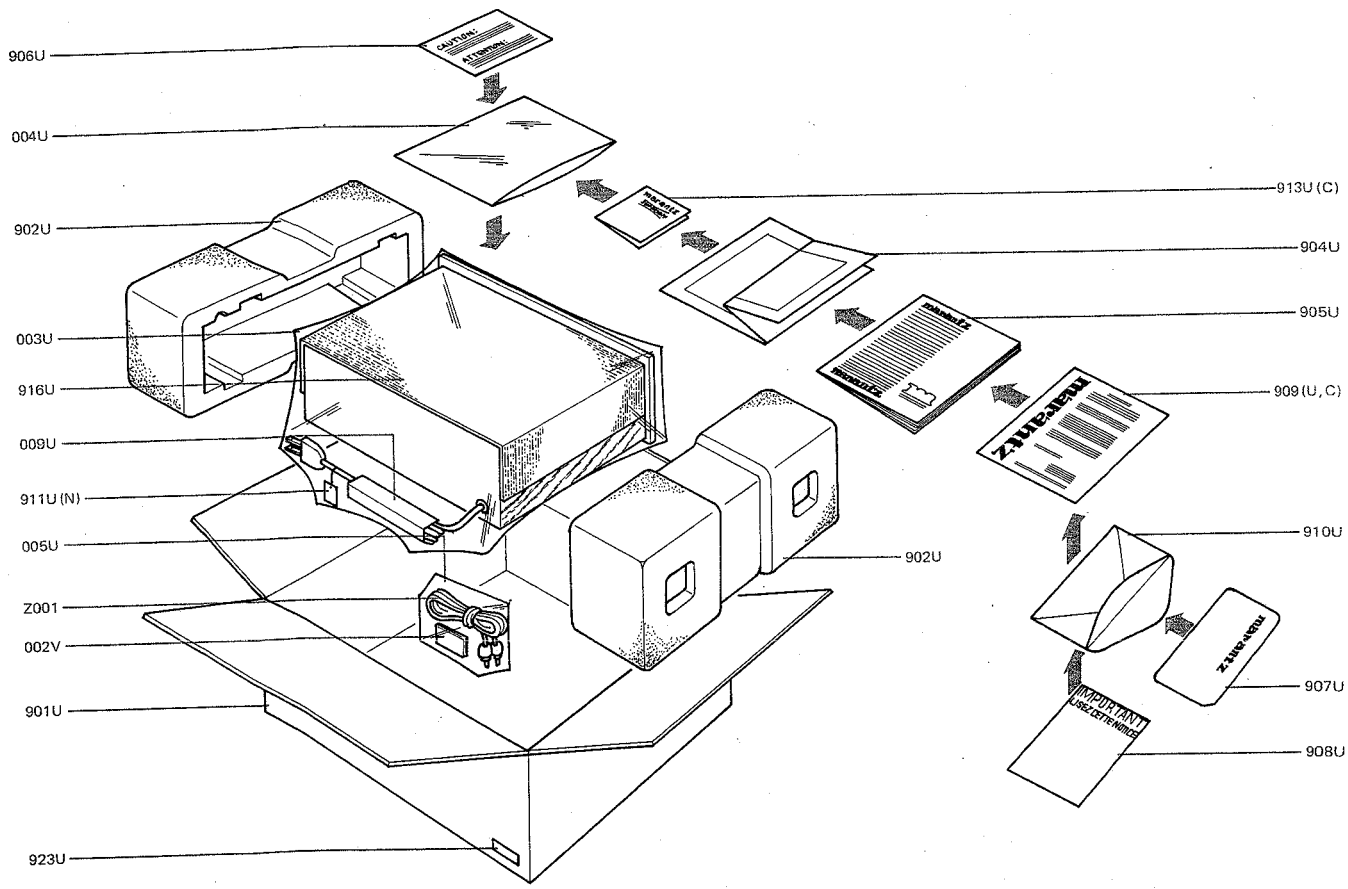
REF. DESIG.	Q'TY U	C	E	PART NO.	DESCRIPTION
					P100-SWITCHES
S101	1	1	1	SS09020070	Slide, Rec/Play
S201	1	1	1	SS09020070	Slide, Rec/Play
S301	1	1	1	SP08040060	Push, EQ
S302	1	1	1	SP08040060	Push, Bias
S303	1	1	1	SP08040060	Push, Limiter
S304	1	1	1	SP08040060	Push, Dolby NR
					P100-COILS
L101	1	1	1	LC23960020	Choke, 30mH ±5%
L102	1	1	1	LC22260040	Choke, 22mH
L103	1	1	1	LC24750040	Choke, 4.7mH Rec. EQ
L104	1	1	1	LC22260040	Choke, 22mH ±5%
L201	1	1	1	LC23960020	Choke, 39mH ±5%
L202	1	1	1	LC22260040	Choke, 22mH
L203	1	1	1	LC24750040	Choke, 4.7mH Rec. EQ
L204	1	1	1	LC22260040	Choke, 22mH ±5%
L301	1	1	1	TC10180072	OSC Transf.
L302	1	1	1	LC12240050	Choke, 220μH ±10%
					P100-PLUGS
J101 ≀ J142	1	1	1	YP10001130	Plug
J201 ≀ J242	1	1	1	YP10001130	Plug
J301 ≀ J321	1	1	1	YP10001130	Plug
J331	1	1	1	YP06001060	Plug
					P400-FUSE CIRCUIT BOARD
P400			1	YK41971330	P.W.Board, Fuse
			1	ZZ41978330	P.W.Board Assembly
J401 ≀ J406			1	YP10001200	Plug
J407 ≀ J412			1	YJ08000200	Jack, Fuse Clip

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
					P500-LEVEL PEAK CIRCUIT BOARD
P500	1	1	1	YF41980010	P.W.Board, Level Peak
	1	1	1	ZZ41980010	P.W.Board Assembly
					P500-CAPACITORS
C511	1	1	1	EA22505090	Elect. 2.2μF 50V
C512	1	1	1	EA22505090	Elect. 2.2μF 50V
C521	1	1	1	EA22505090	Elect. 2.2μF 50V
C522	1	1	1	EA22505090	Elect. 2.2μF 50V
					P500-PLUGS
J501	1	1	1	YP10001130	Plug
J511 ≀ J516	1	1	1	YP10001130	Plug
J518	1	1	1	YP10001130	Plug
J521 ≀ J526	1	1	1	YP10001130	Plug
J528	1	1	1	YP10001130	Plug
					P500-RESISTORS (All resistors are ±5% and 1/4W)
R501	1	1	1	RD05030090	Variable Resist, Mic
R502	1	1	1	RD05030090	Variable Resist, Line
R503	1	1	1	RM05030750	Variable Resist, Master
R511	1	1	1	GD05333140	33KΩ
R512	1	1	1	GD05561140	560Ω
R513	1	1	1	GD05183140	18KΩ
R514	1	1	1	GD05104140	100KΩ
R515	1	1	1	GD05221140	220Ω
R521	1	1	1	GD05333140	33KΩ
R522	1	1	1	GD05561140	560Ω
R523	1	1	1	GD05183140	18KΩ
R524	1	1	1	GD05104140	100KΩ
R525	1	1	1	GD05221140	220Ω
					P500-SEMICONDUCTORS
Q511	1	1	1	HD10003020	Diode, 2OA90
Q512	1	1	1	HT308281J0	Transistor, 2SC828A(R)
Q513	1	1	1	HT313181R0	Transistor, 2SC1318(R)
Q521	1	1	1	HD10003020	Diode, 2OA90
Q522	1	1	1	HT308281J0	Transistor, 2SC828A(R)
Q523	1	1	1	HT313181R0	Transistor, 2SC1318(R)

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
P800	1	1	1	YK41980610	P.W. Board, Memory Rew
	1	1	1	ZZ41980610	P.W. Board Assembly
					P800-SEMICONDUCTORS
Q801	1	1	1	HT313831D0	Transistor 2SC1383 (S)
Q802	1	1	1	HD20013100	Diode 10D1
Q803	1	1	1	HT308281C0	Transistor 2SC828 (R)
Q804	1	1	1	HT308281C0	Transistor 2SC828 (R)
Q805	1	1	1	HD10003020	Diode 2OA90
Q806	1	1	1	HD10003020	Diode 2OA90
Q807	1	1	1	HT308281C0	Transistor 2SC828 (R)
Q808	1	1	1	HD10003020	Diode 2OA90
					P800-RESISTORS (All resistors are ±5% and 1/4W)
R801	1	1	1	GD05104140	Resistor 100KΩ
R802	1	1	1	GD05332140	Resistor 3.3KΩ
R803	1	1	1	GD05223140	Resistor 22KΩ
R804	1	1	1	GD05223140	Resistor 22KΩ
R805	1	1	1	GD05472140	Resistor 4.7KΩ
R806	1	1	1	GD05472140	Resistor 4.7KΩ
R807	1	1	1	GD05473140	Resistor 47KΩ
R808	1	1	1	GD05473140	Resistor 47KΩ
R809	1	1	1	GD05392140	Resistor 3.9KΩ
					P800-CAPACITORS
C801	1	1	1	EA47505090	Elect Cap 4.7μF 50V
C802	1	1	1	DF16332010	Film Cap. 3300pF ±10%
					P800-PLUGS
J801 ~ J809	1	1	1	YP10001130	Plug Wire Wrap

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

8.12 [H01-99] PACKING MATERIALS



REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
003U	1	1	1	9014538350	Polyethy Bag
004U	1	1	1	9013025010	Polyethy Bag
005U	1	1	1	9011325010	Polyethy Bag
009U	1	1	1	2864804010	Sleeve
901U	1	1	1	4198801010	Packing Case
902U	2	2	2	4197809010	Cushion
904U	1			4197851020	Instructions
904U		1	1	4197851030	Instructions
905U	1			4197851010	Instructions
905U		1	1	4197851310	Instructions
906U	1			2818851040	Instructions
906U		1	1	2818851140	Instructions
907U	1			2577854012	Guarantee Card
907U		1	1	9630000180	Guarantee Card
908U	1			2577851020	Instructions
908U		1	1	2818851120	Instructions
909U	1			2818854023	Guarantee Card
909U		1		2818854042	Guarantee Card
910U	1			2577813010	Envelope
910U		1		2918813012	Envelope

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
910U			1	2818813010	Envelope
911U			1	9560000042	Hang Tag
912U		2		9510901020	Label
913U		1		9650000050	S. Station Card
916U	1	1	1	2918107150	Sheet
919U	1			9511101050	Label
919U		1		2457861040	Label
920U	1			9510911020	Label
920U		1		9510911010	Label
923U	3			9522815010	Serial No. Card
923U		3		9523015120	Serial No. Card
923U			3	9523015130	Serial No. Card
Z001	2	2		ZD01200062	Connective Cord
Z001			1	ZD02000070	Connective Cord
002V	1	1	1	4136071010	Cleaner

9. GENERAL SPECIFICATIONS

Style	Front Load
Tape Drive System	Single Capstan Drive
Cartridge	Philips Type Compact Cassette
Track System	Compatible Stereo 4 Track 2 Channel
Tape Speed	1-7/8 ips (4.8 cm/sec.)
Head	R/P – Super Hard Permalloy, Erase-Ferrite
Motor	DC Servo Controlled Motor x 1
Meters	VU Type x 2
Recording System	AC Bias
Erasing System	AC Erase
Semiconductors	
Transistors	29
IC's	3
Diodes	29
LED's	4
Line Output	
Level	800 mV
Impedance	2 kohms
Line Input Sensitivity	
Level	–26 dBV
Impedance	220 kohms
Headphone Output	
Level	43 mV
Impedance	150 ohms
Mic Input Sensitivity	
Level	–76 dBV
Impedance	8.2 kohms
Fast Rewind Time	105
Fast Forward Time	105
AC Line Voltage	120 V AC, 60 Hz (for U.S.A. and Canada) 110/120/220 V or 240 V AC, 50/60 Hz (for Europe)
Power Consumption	11 Watts
Dimensions (W x H x D)	17-3/8" x 5-3/4" x 11-11/16"
Weight	14 lbs 12 oz